

STL920000075US2  
Shyh Mei F. Ho, et al.  
Common Application Metamodel Including C/C++ Metamodel

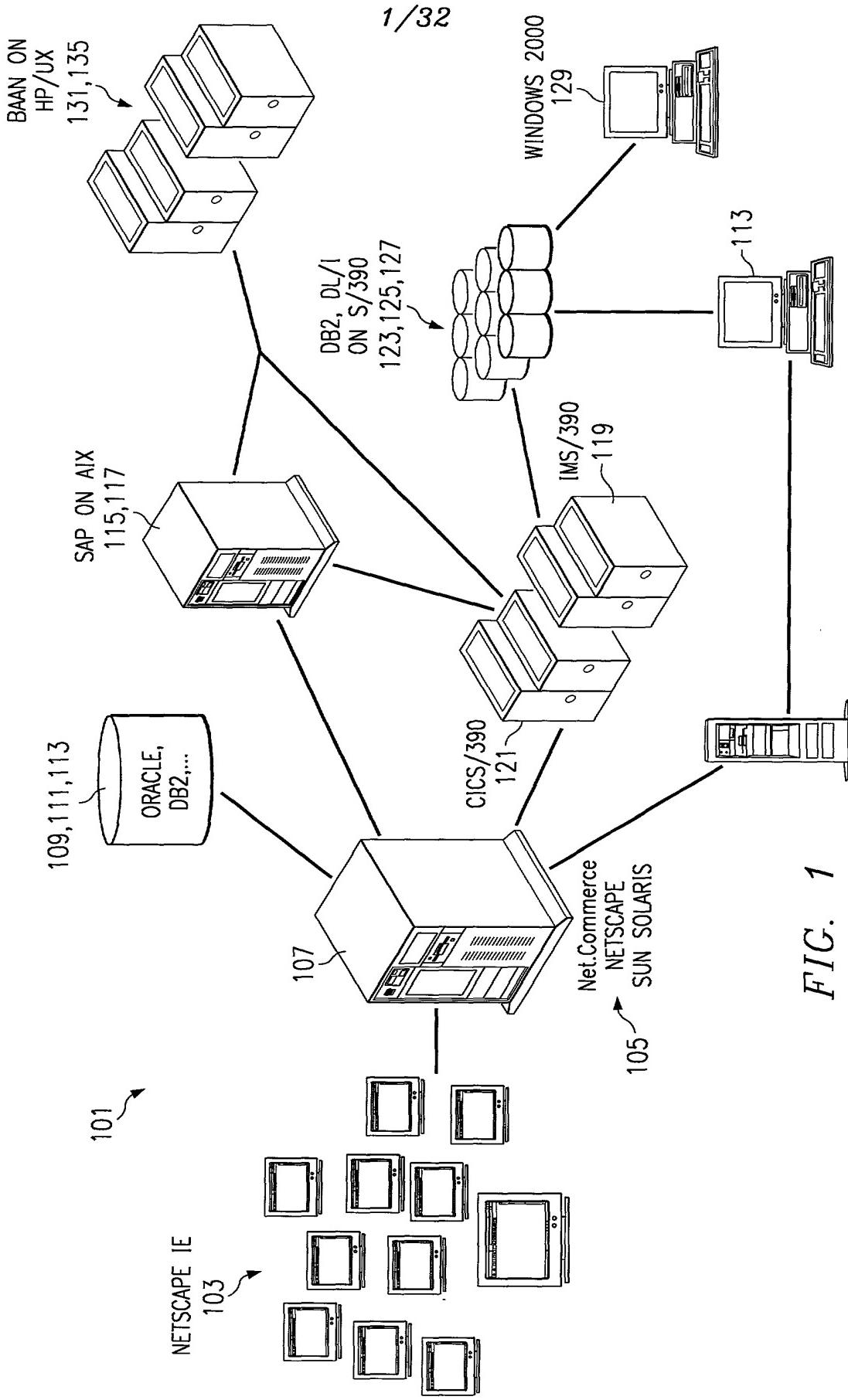


FIG. 1

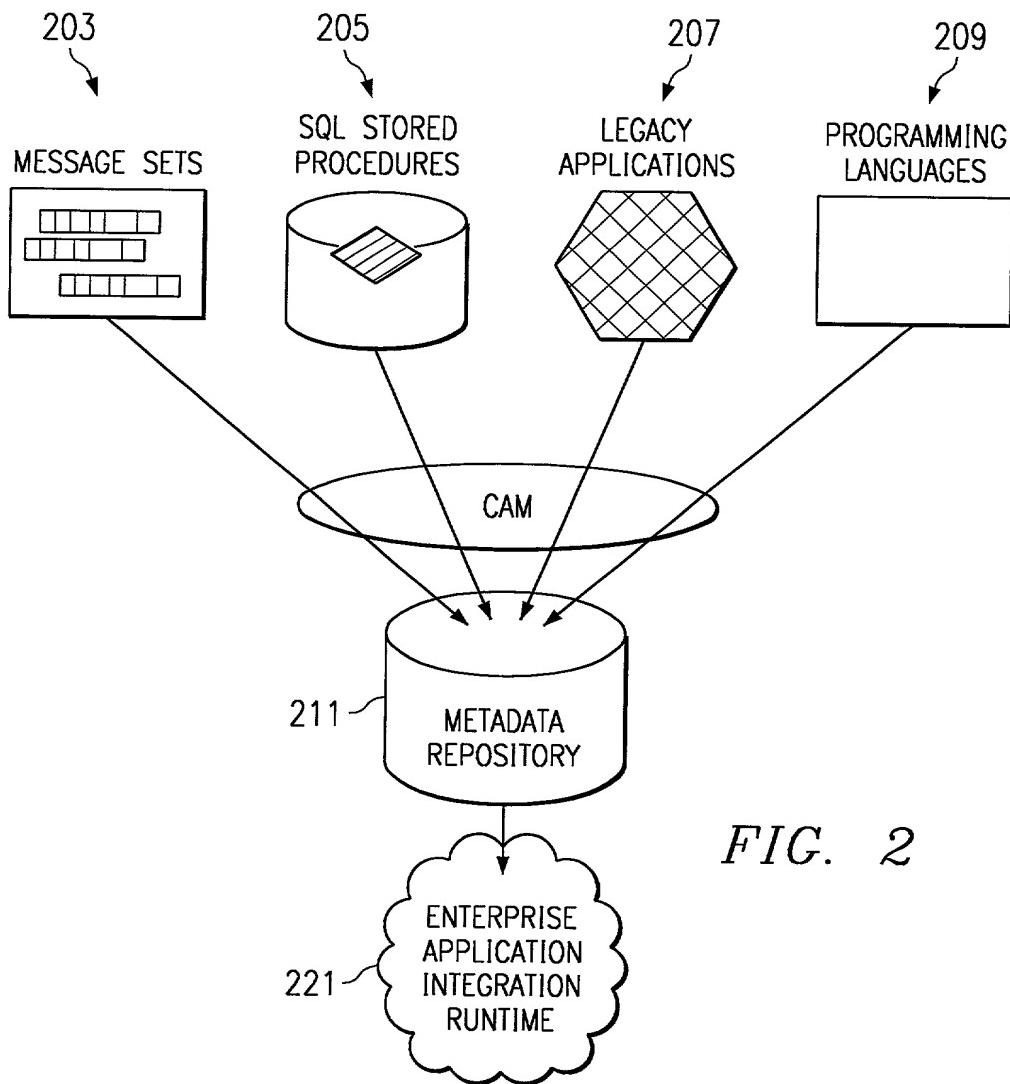


FIG. 2

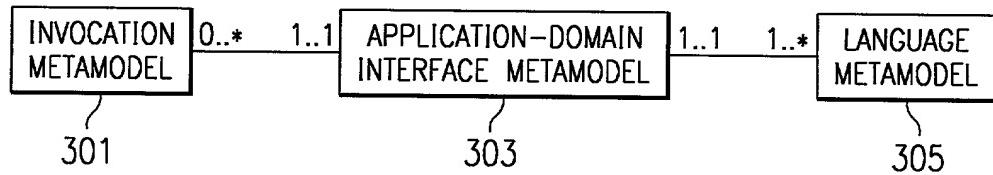
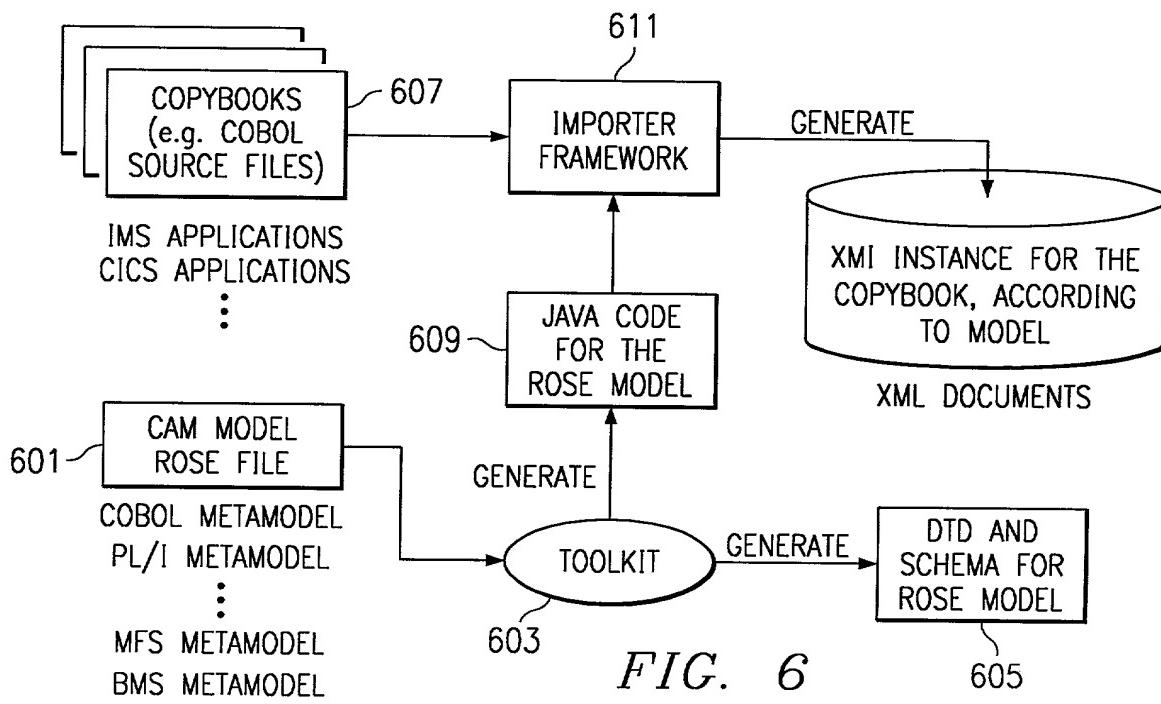
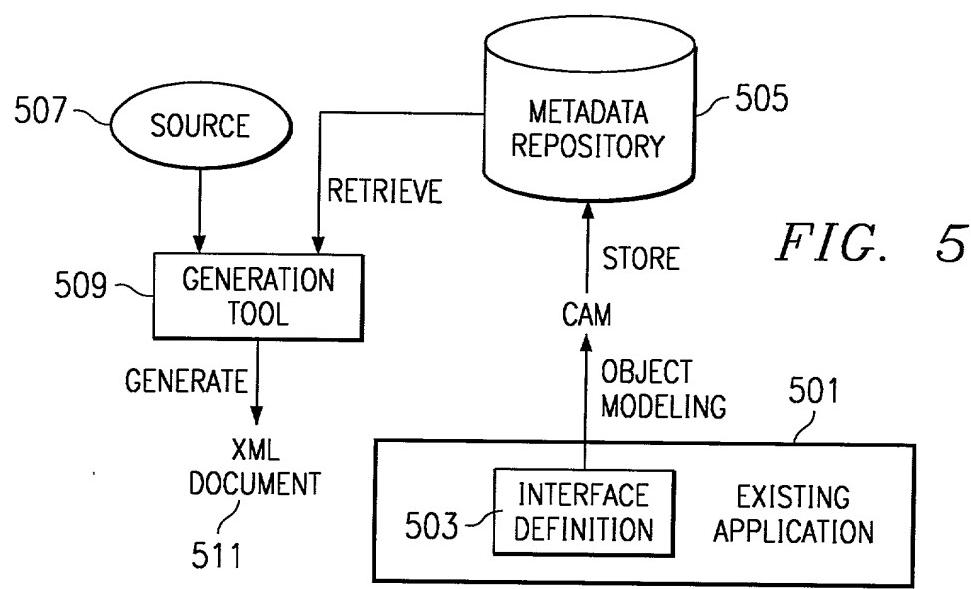
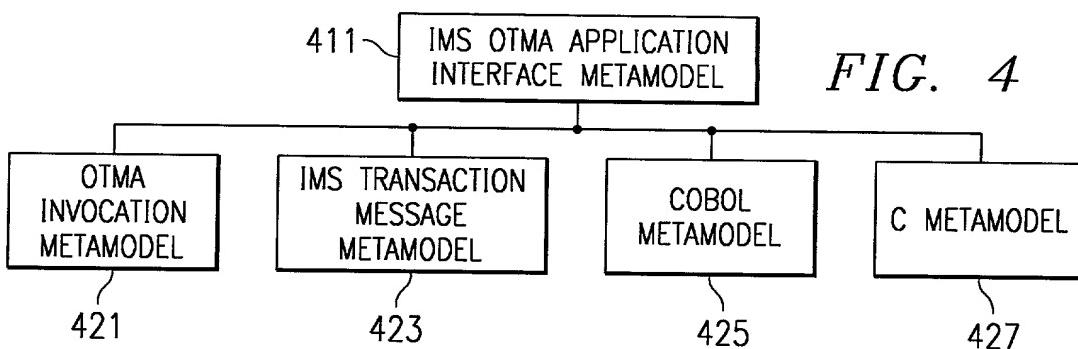
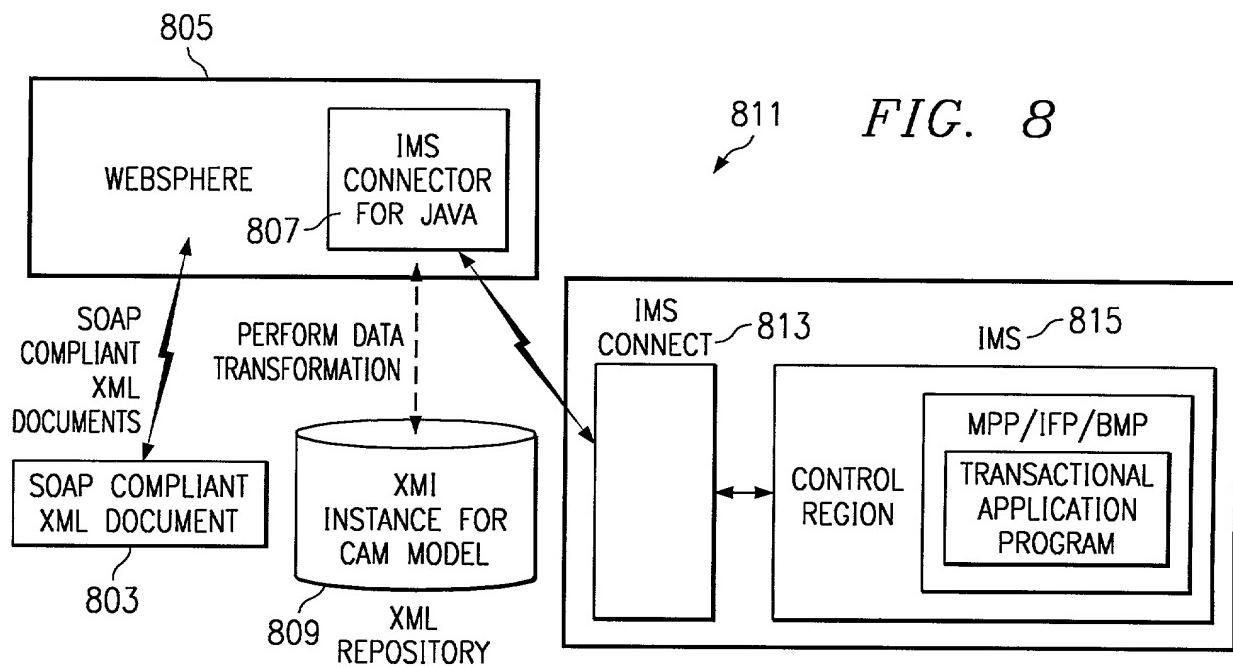
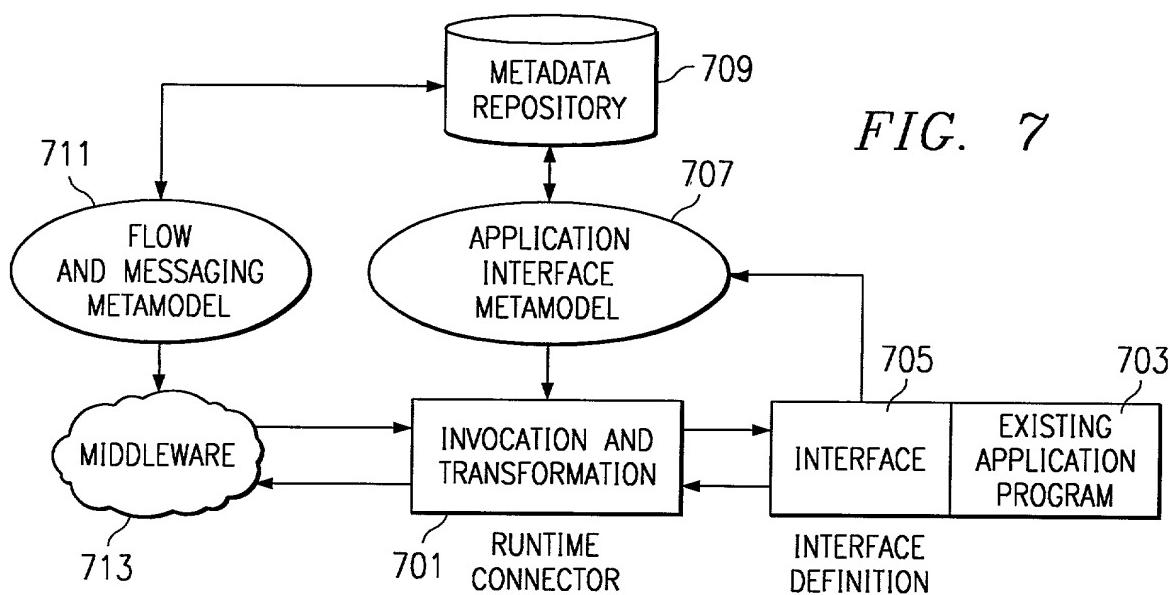
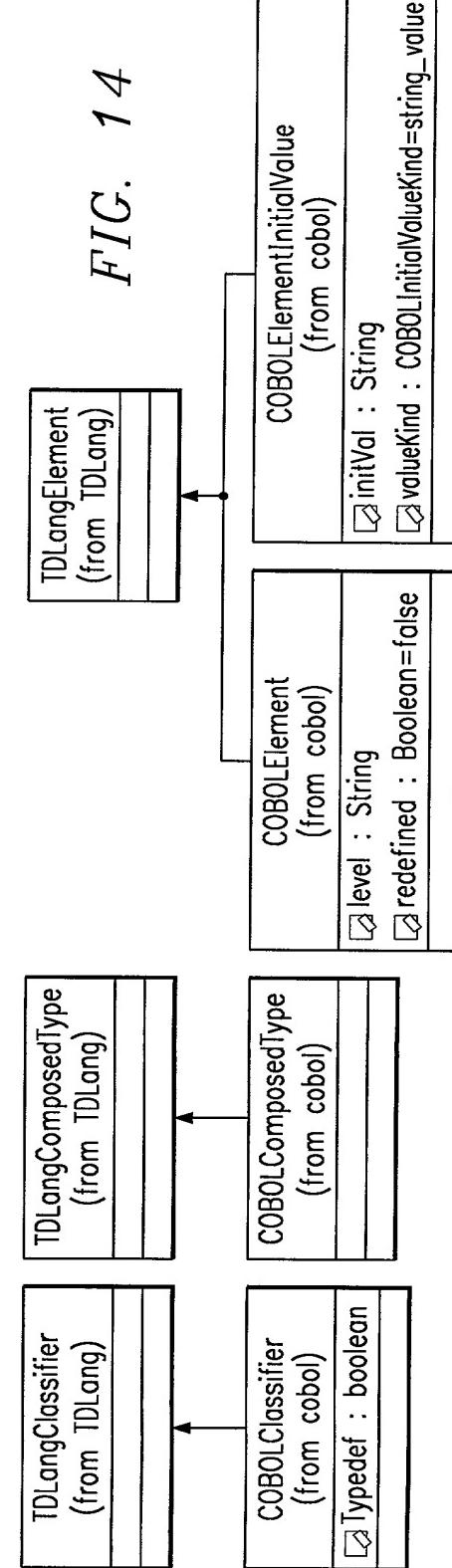
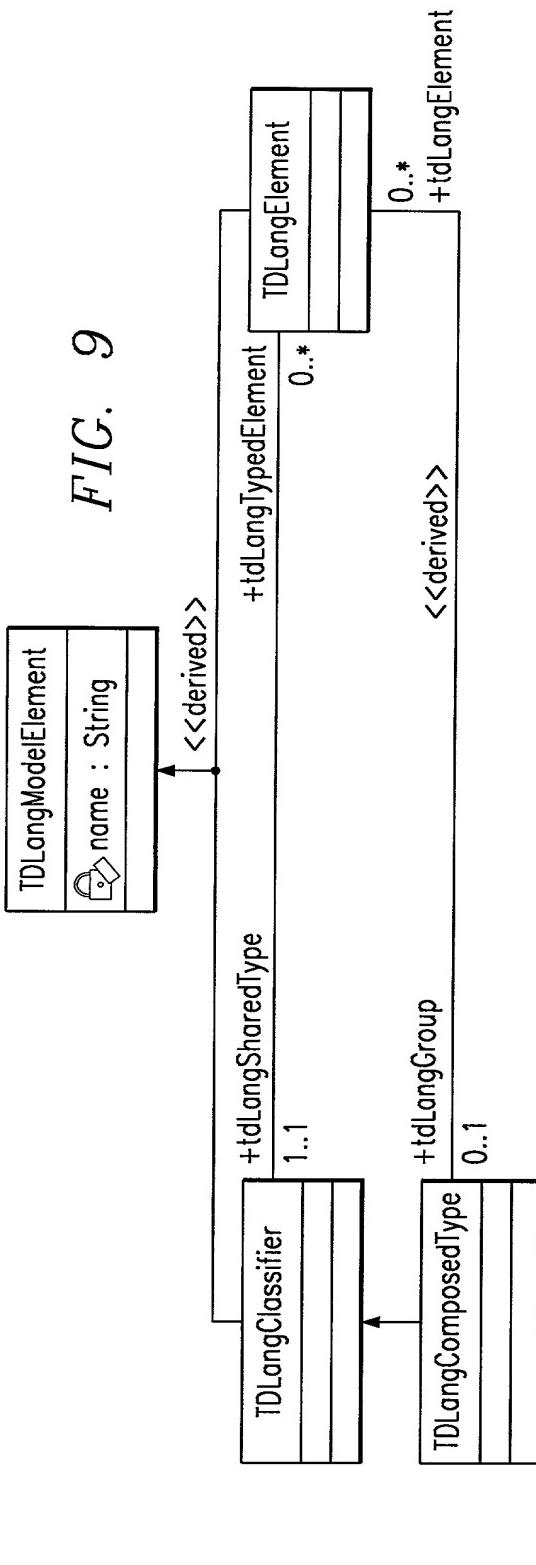


FIG. 3







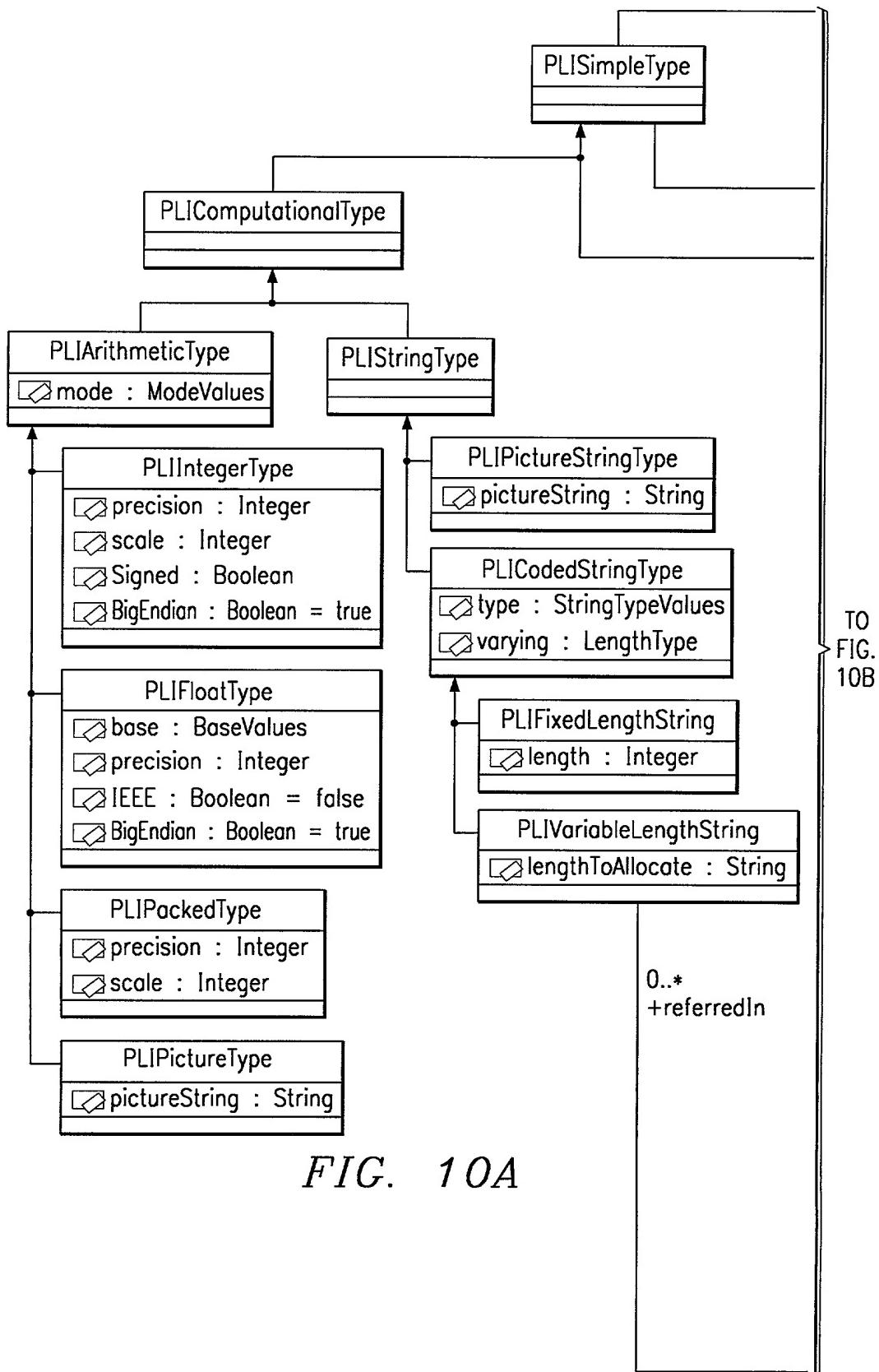
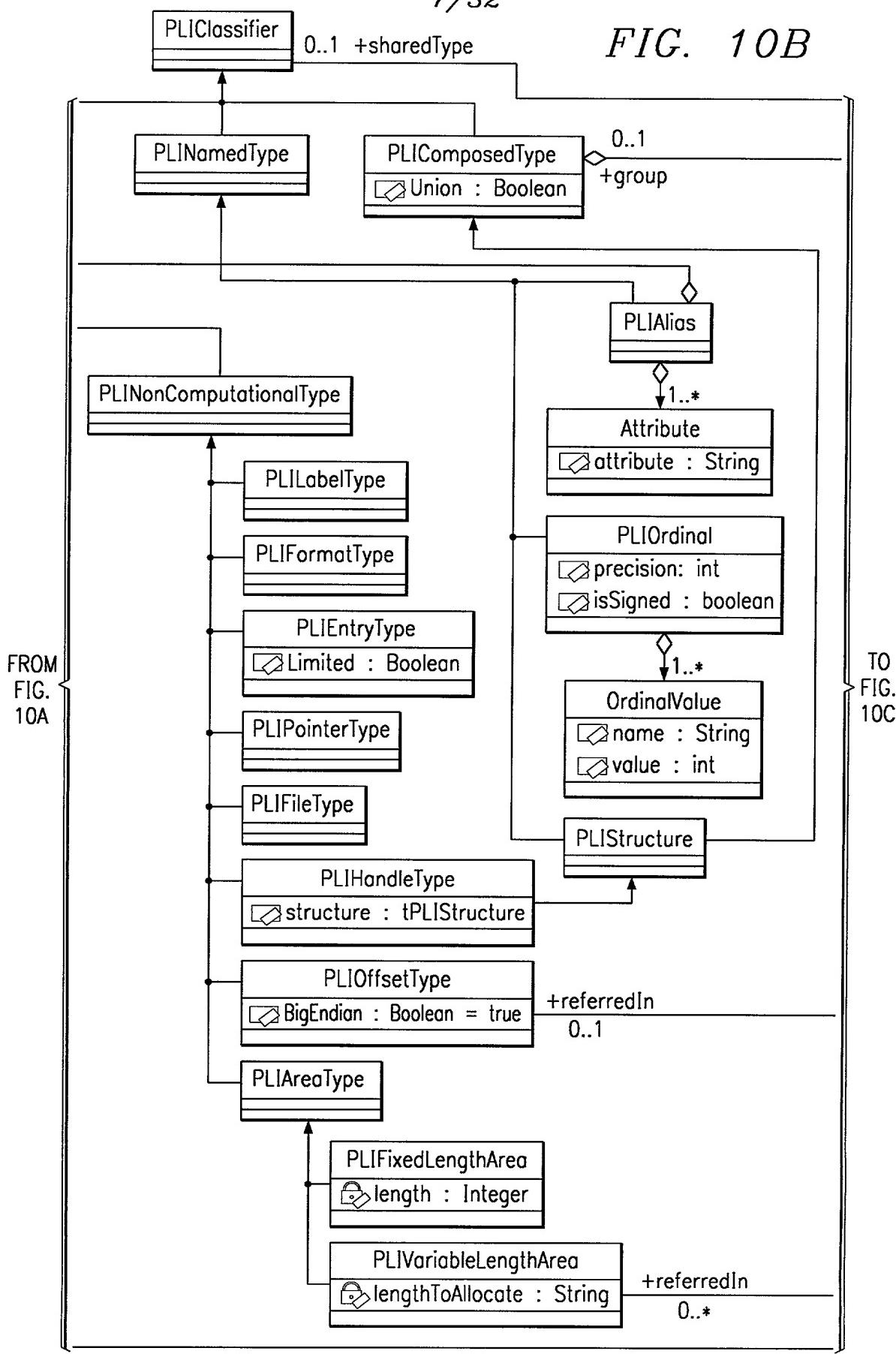
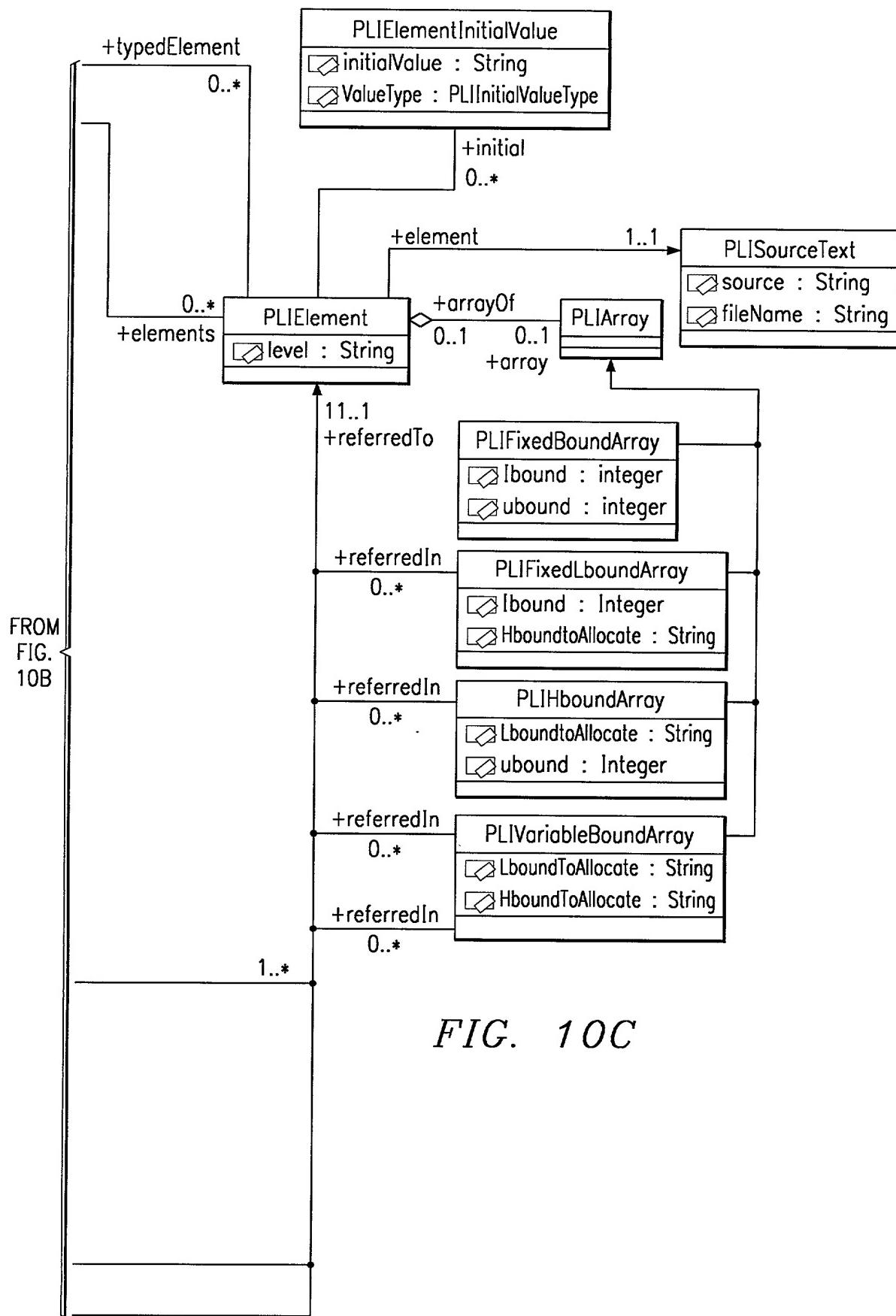


FIG. 10A

*FIG. 10B*





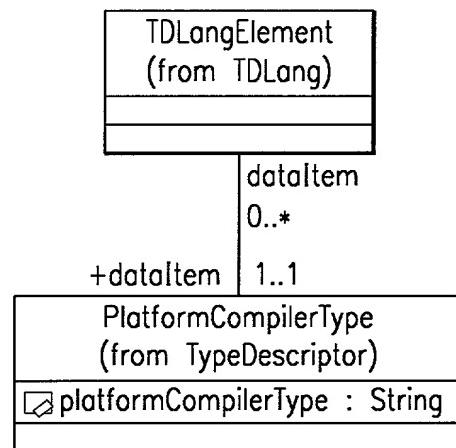
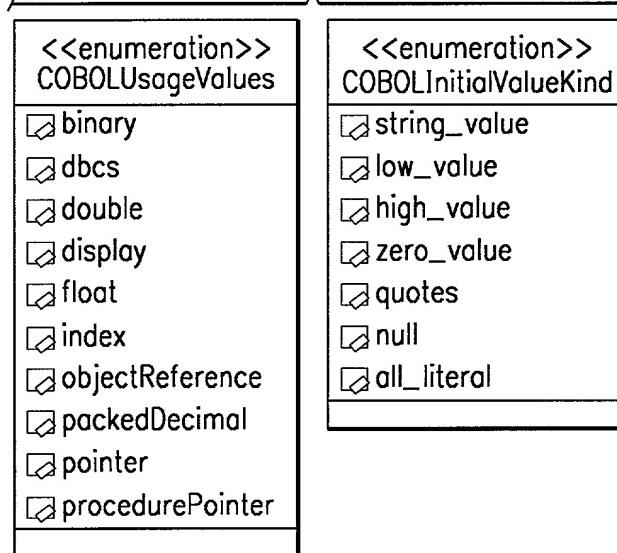
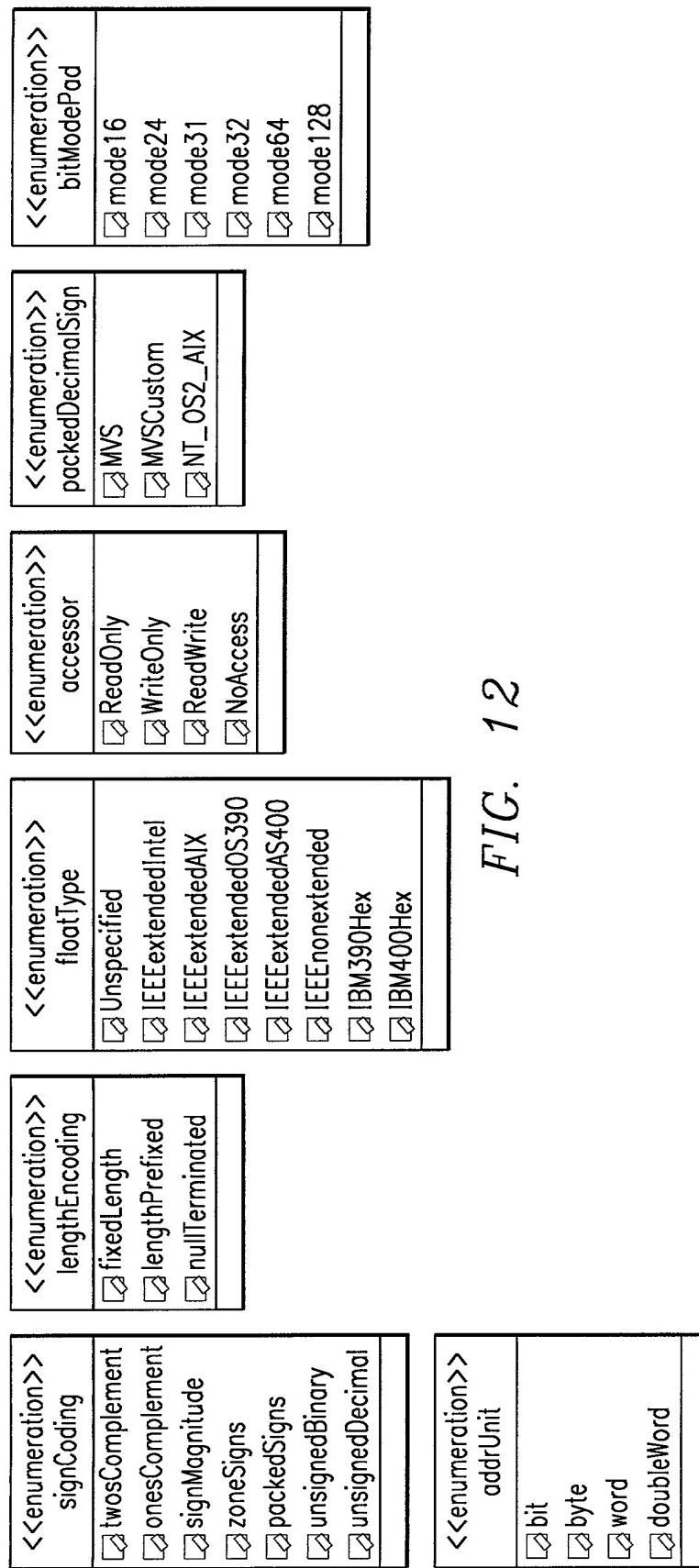


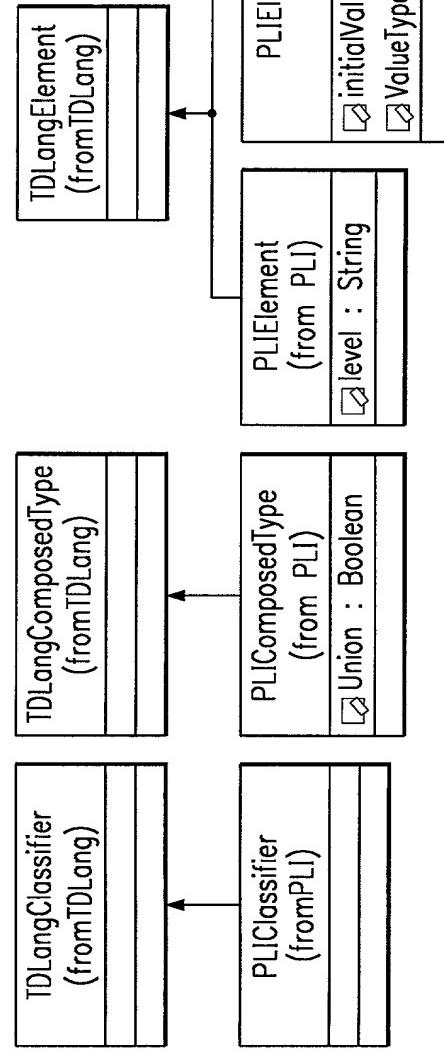
FIG. 11

FIG. 15





*FIG. 17*



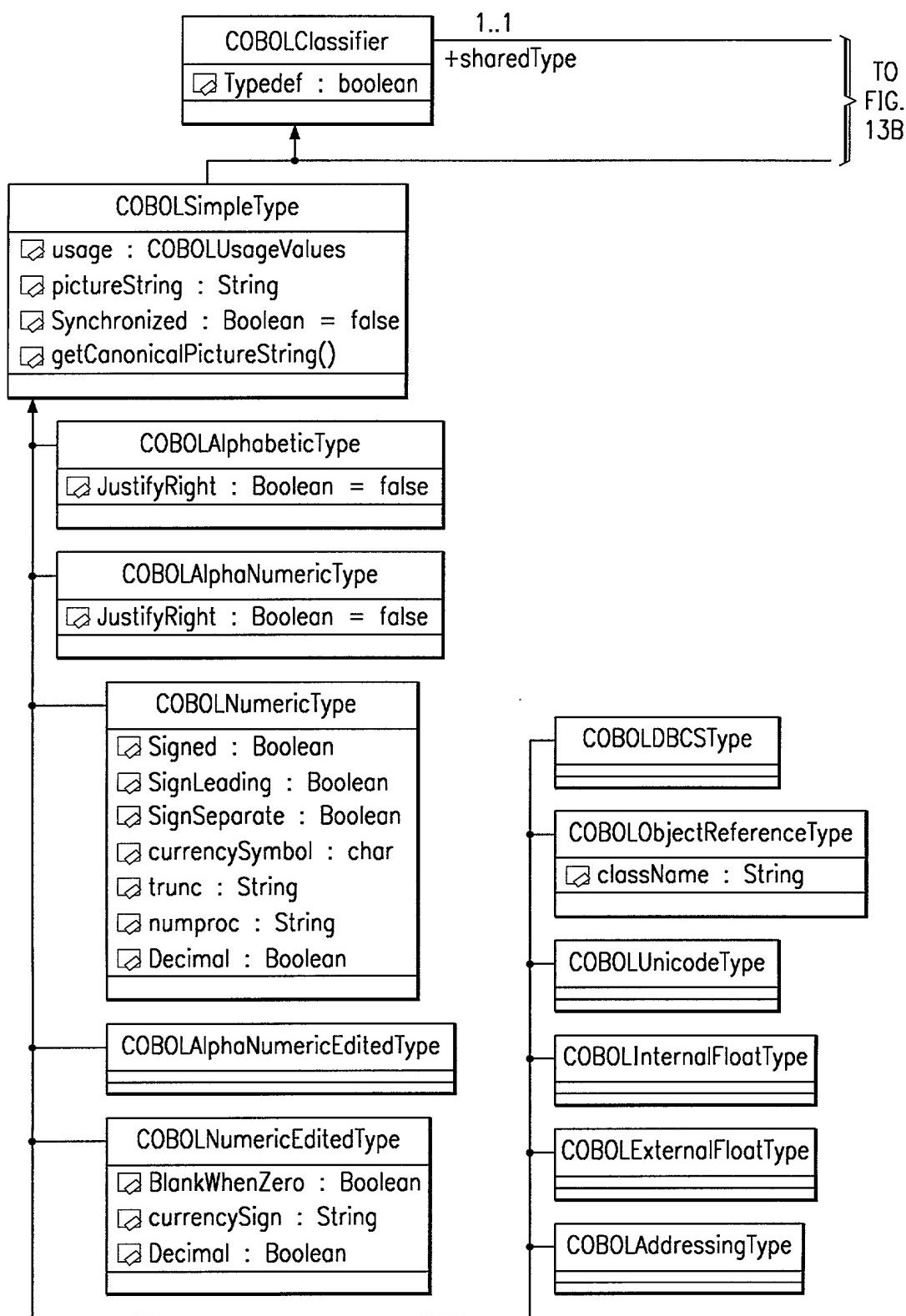


FIG. 13A

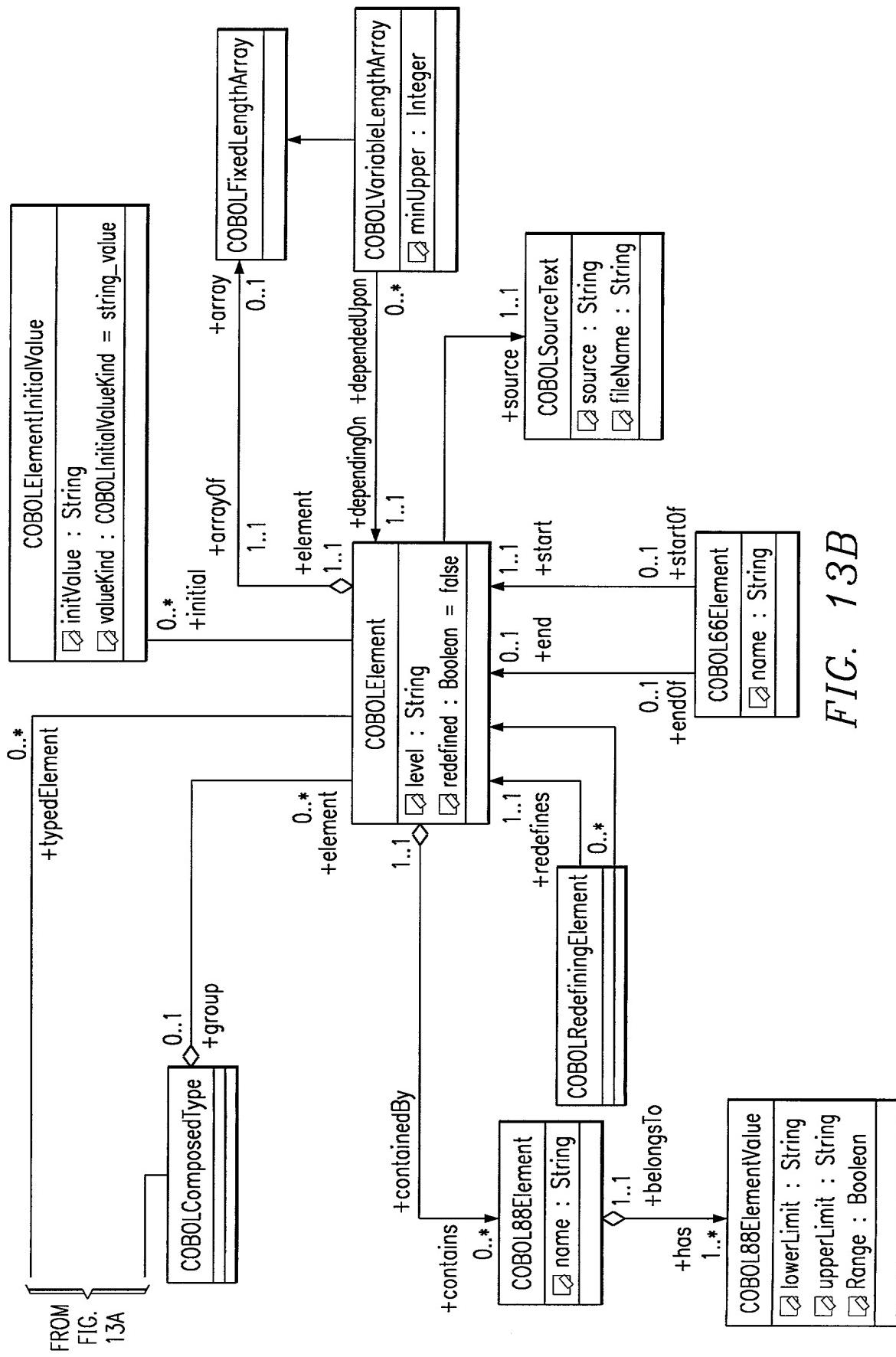


FIG. 13B

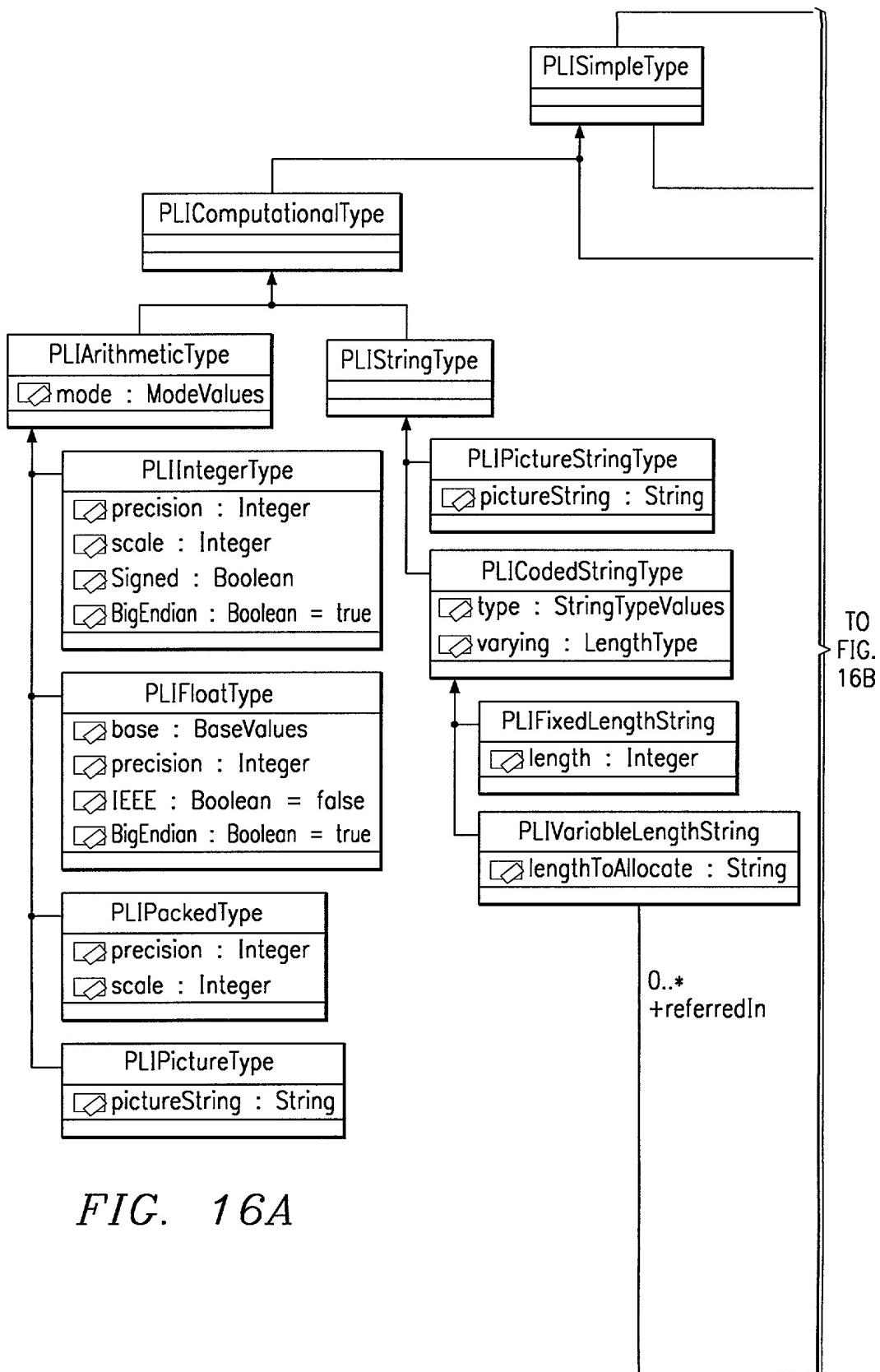
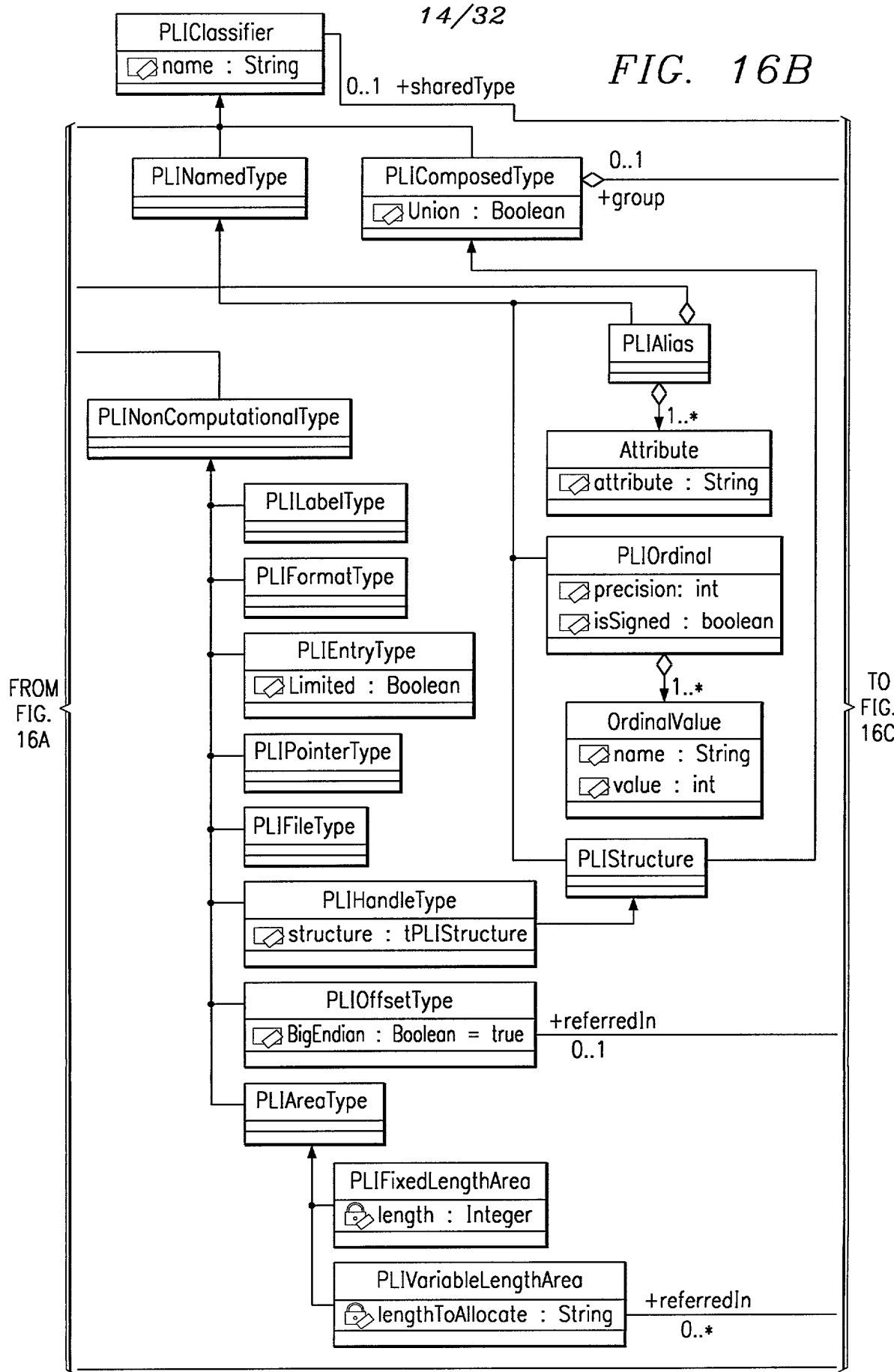
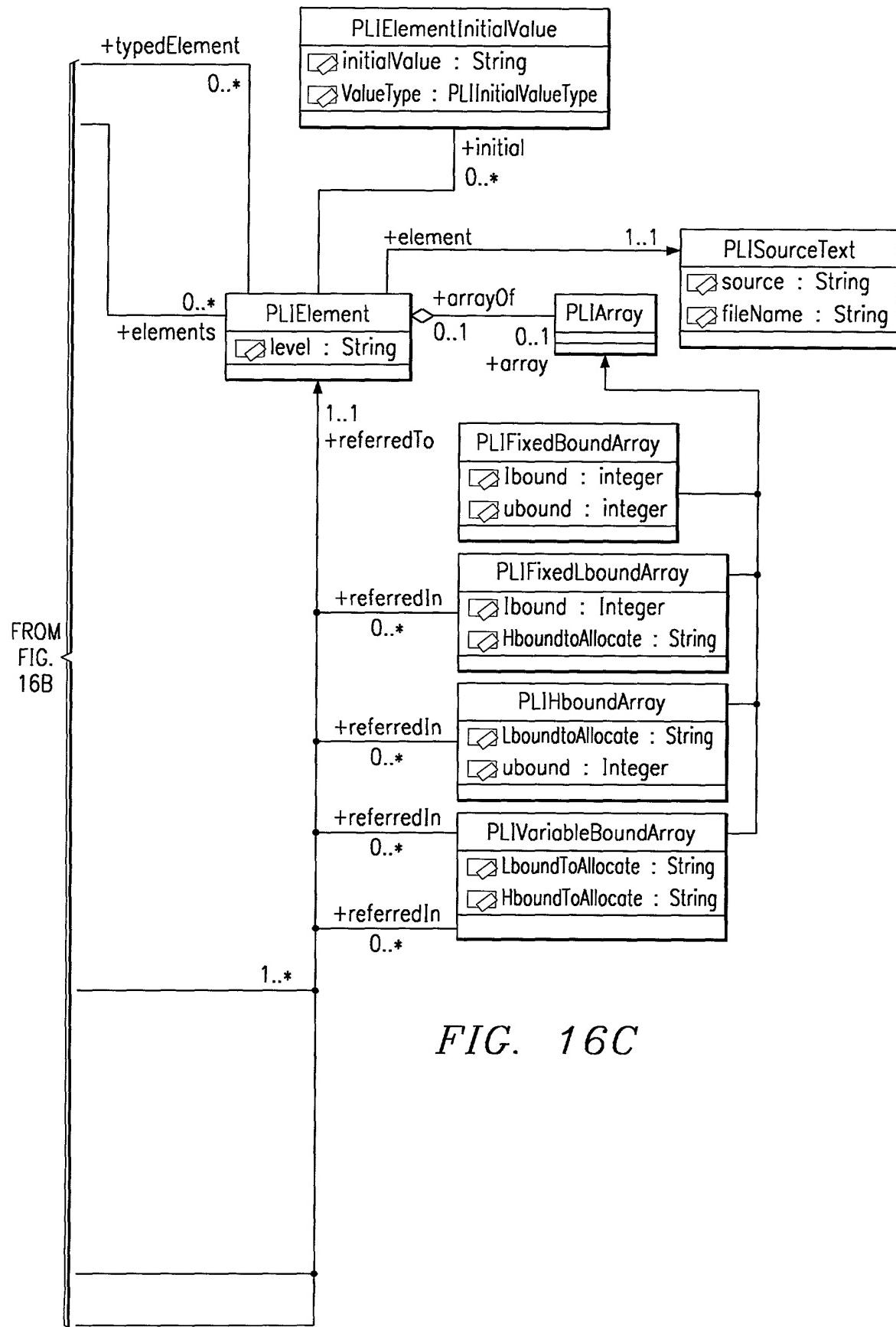
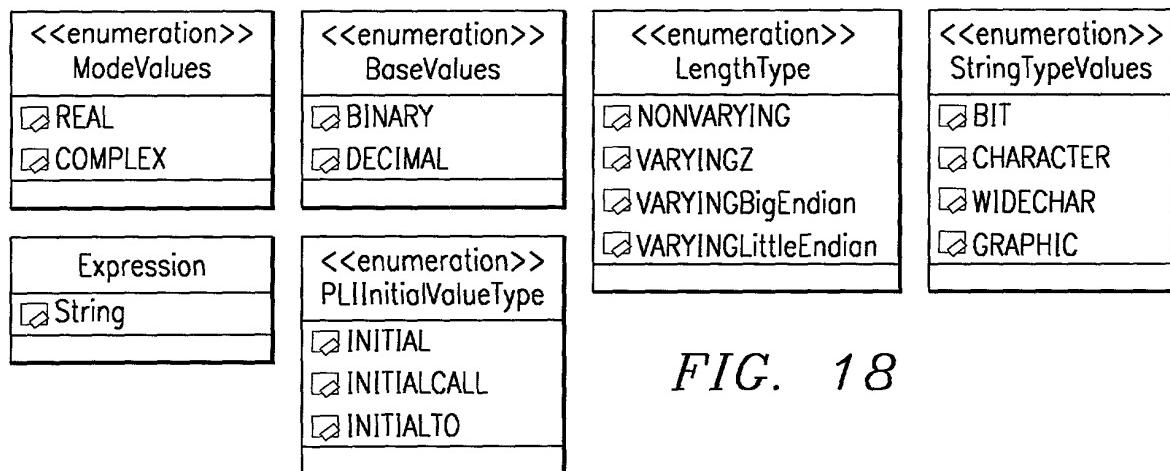


FIG. 16A

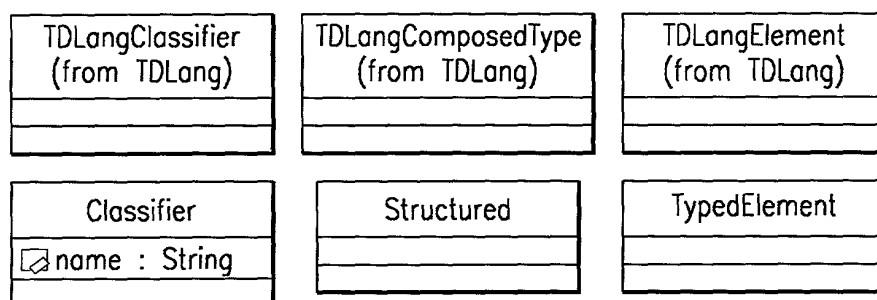
FIG. 16B



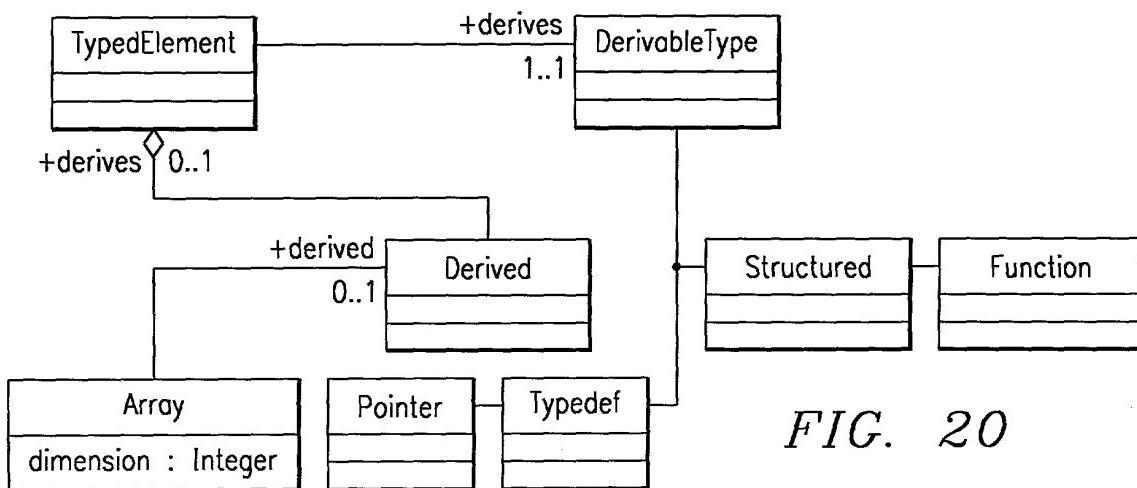




*FIG. 18*

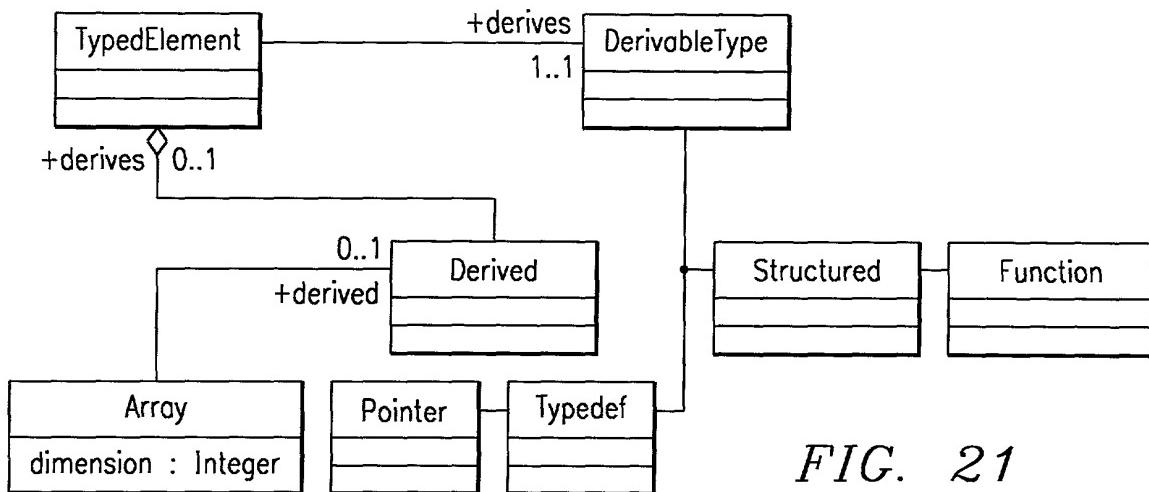


*FIG. 19*

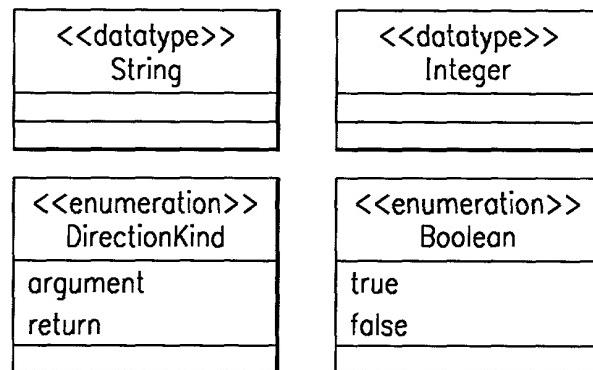


*FIG. 20*

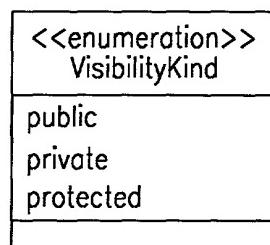
17/32



*FIG. 21*



*FIG. 23*



*FIG. 25*

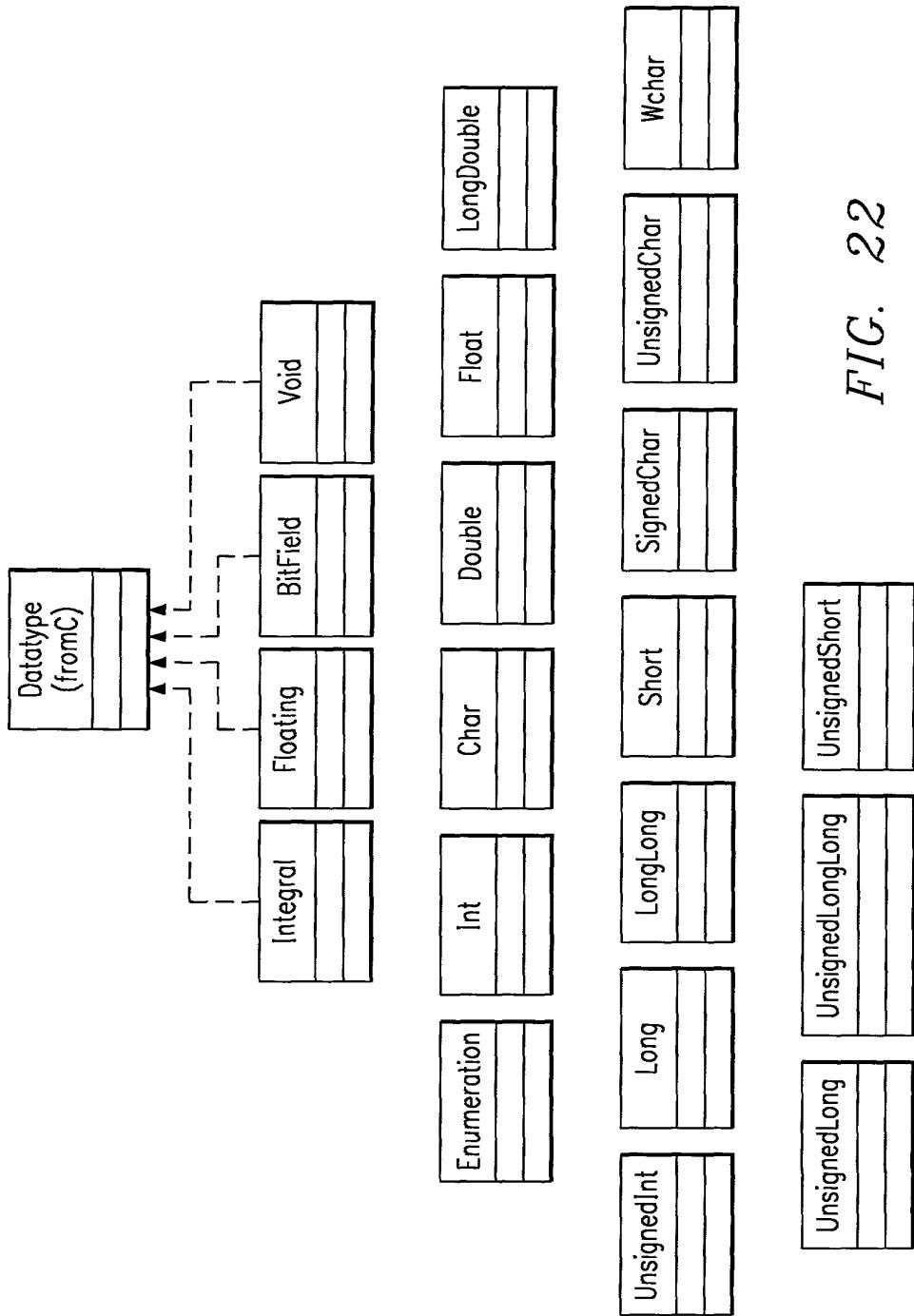


FIG. 22

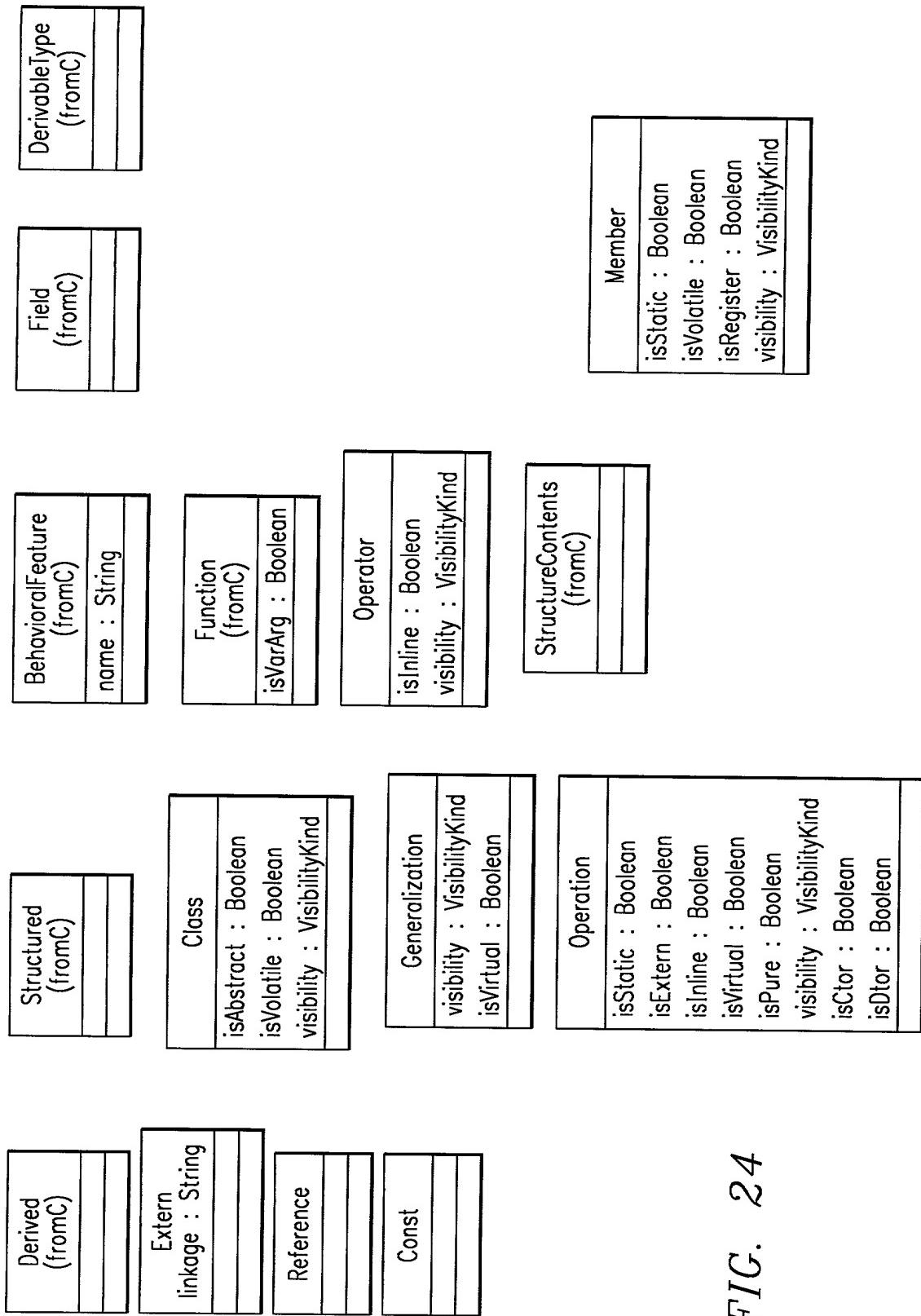
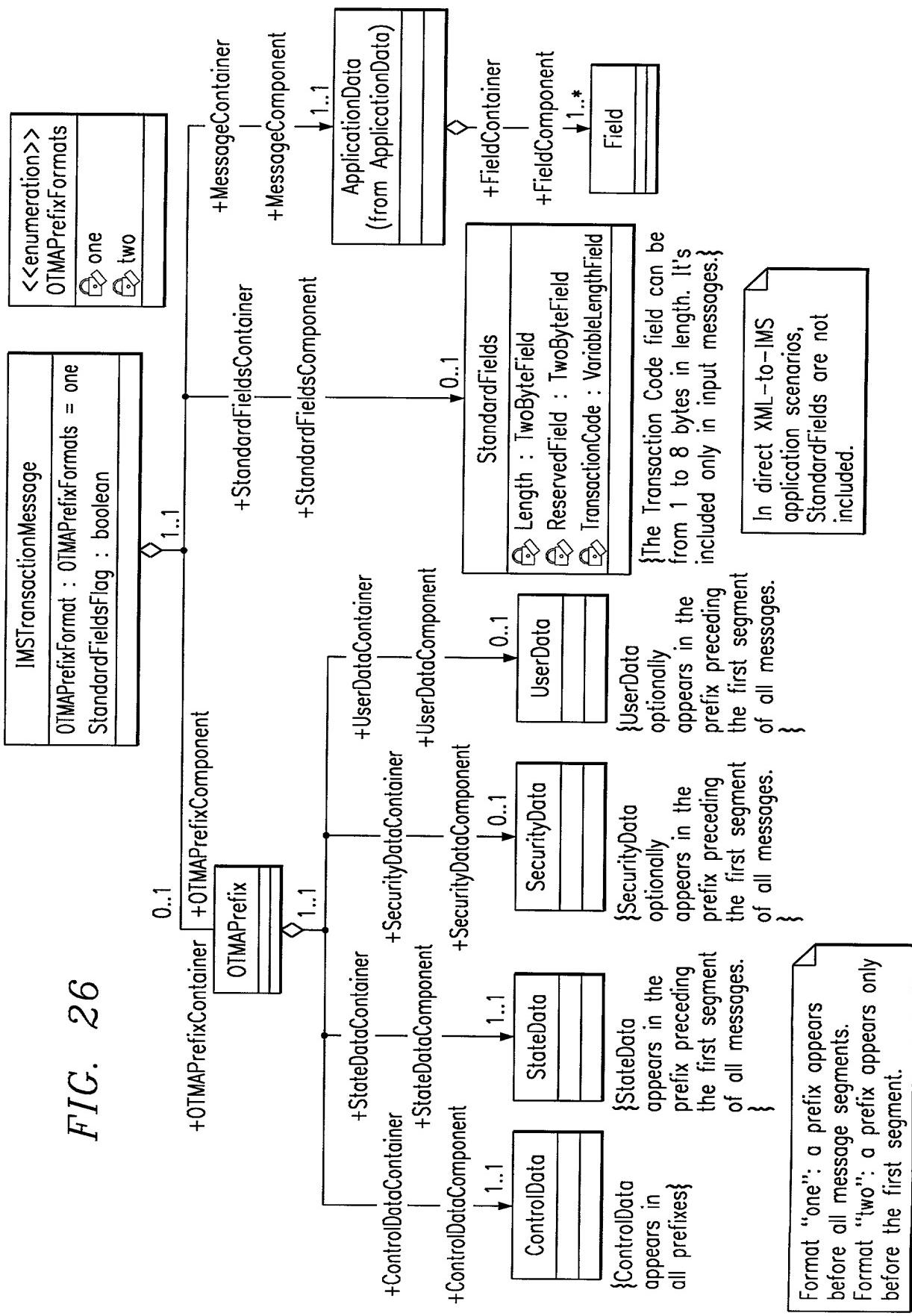


FIG. 24



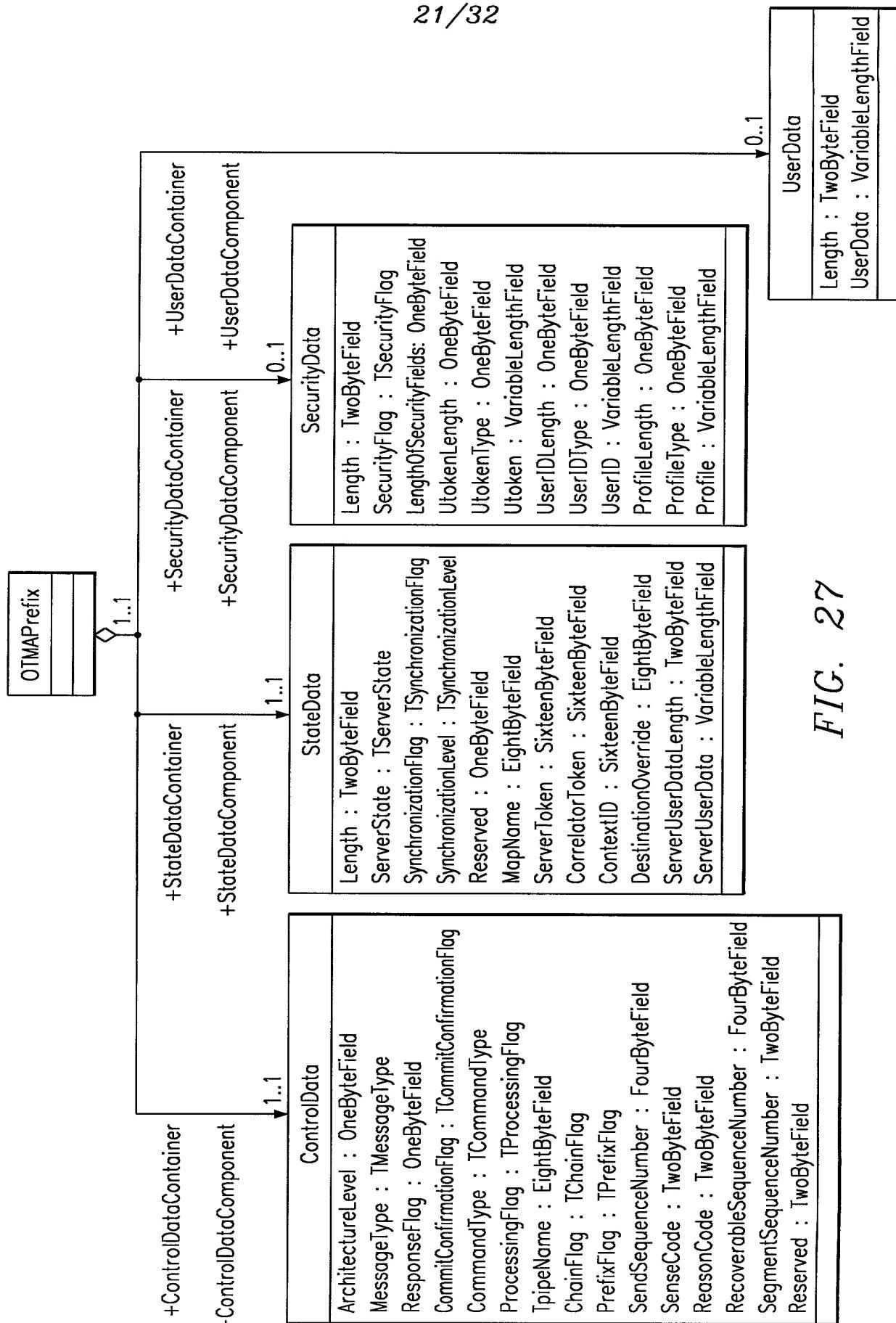


FIG. 27

<code>&lt;&lt;enumeration&gt;&gt;</code>	<code>TCommandType</code>
	<ul style="list-style-type: none"> <li>⌚ ClientBid : String</li> <li>⌚ ServerAvailable : String</li> <li>⌚ CBresynch : String</li> <li>⌚ SuspendProcessingForAllPipes : String</li> <li>⌚ ResumeProcessingForAllPipes : String</li> <li>⌚ SuspendInputForPipe : String</li> <li>⌚ ResumeInputForPipe : String</li> <li>⌚ SRV/resynch : String</li> <li>⌚ REQ/resynch : String</li> <li>⌚ REPsynch : String</li> <li>⌚ TBresynch : String</li> </ul>
<code>&lt;&lt;enumeration&gt;&gt;</code>	<code>TCommitConfirmationFlag</code>
	<ul style="list-style-type: none"> <li>⌚ Committed : String</li> <li>⌚ Aborted : String</li> </ul>
<code>&lt;&lt;enumeration&gt;&gt;</code>	<code>TMessageType</code>
	<ul style="list-style-type: none"> <li>⌚ Data : String</li> <li>⌚ Transaction : String</li> <li>⌚ Response : String</li> <li>⌚ Command : String</li> <li>⌚ CommitConfirmation : String</li> </ul>
<code>&lt;&lt;enumeration&gt;&gt;</code>	<code>TChainFlag</code>
	<ul style="list-style-type: none"> <li>⌚ FirstInChain : String</li> <li>⌚ MiddleInChain : String</li> <li>⌚ LastInChain : String</li> <li>⌚ DiscardChain : String</li> </ul>
<code>&lt;&lt;enumeration&gt;&gt;</code>	<code>TProcessingFlag</code>
	<ul style="list-style-type: none"> <li>⌚ SynchronizedPipe : String</li> <li>⌚ AsynchronousOutput : String</li> <li>⌚ ErrorMessageFollows : String</li> </ul>
<code>&lt;&lt;enumeration&gt;&gt;</code>	<code>TPrefixFlag</code>
	<ul style="list-style-type: none"> <li>⌚ StateData : String</li> <li>⌚ SecurityData : String</li> <li>⌚ UserData : String</li> <li>⌚ ApplicationData : String</li> </ul>

FIG. 28

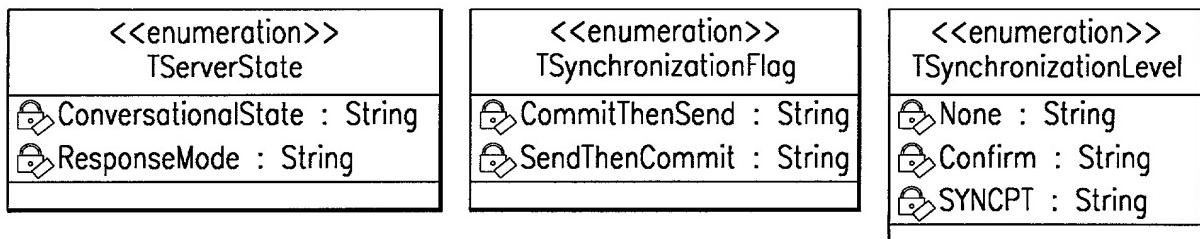


FIG. 29

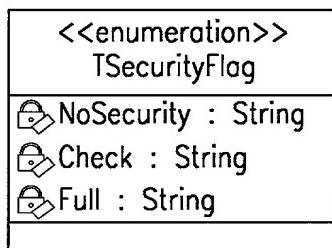
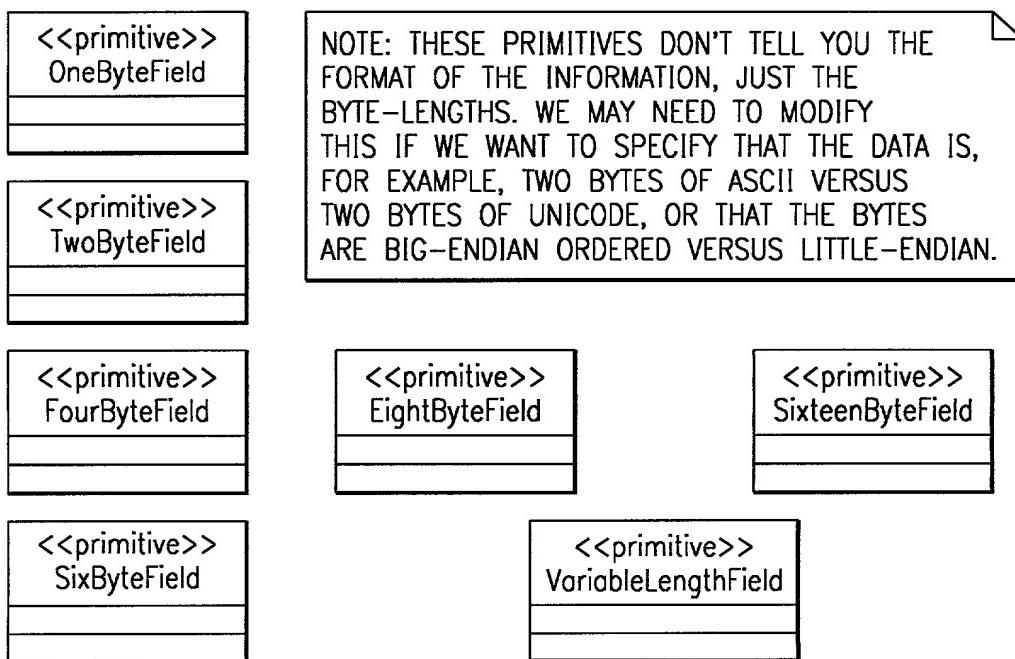


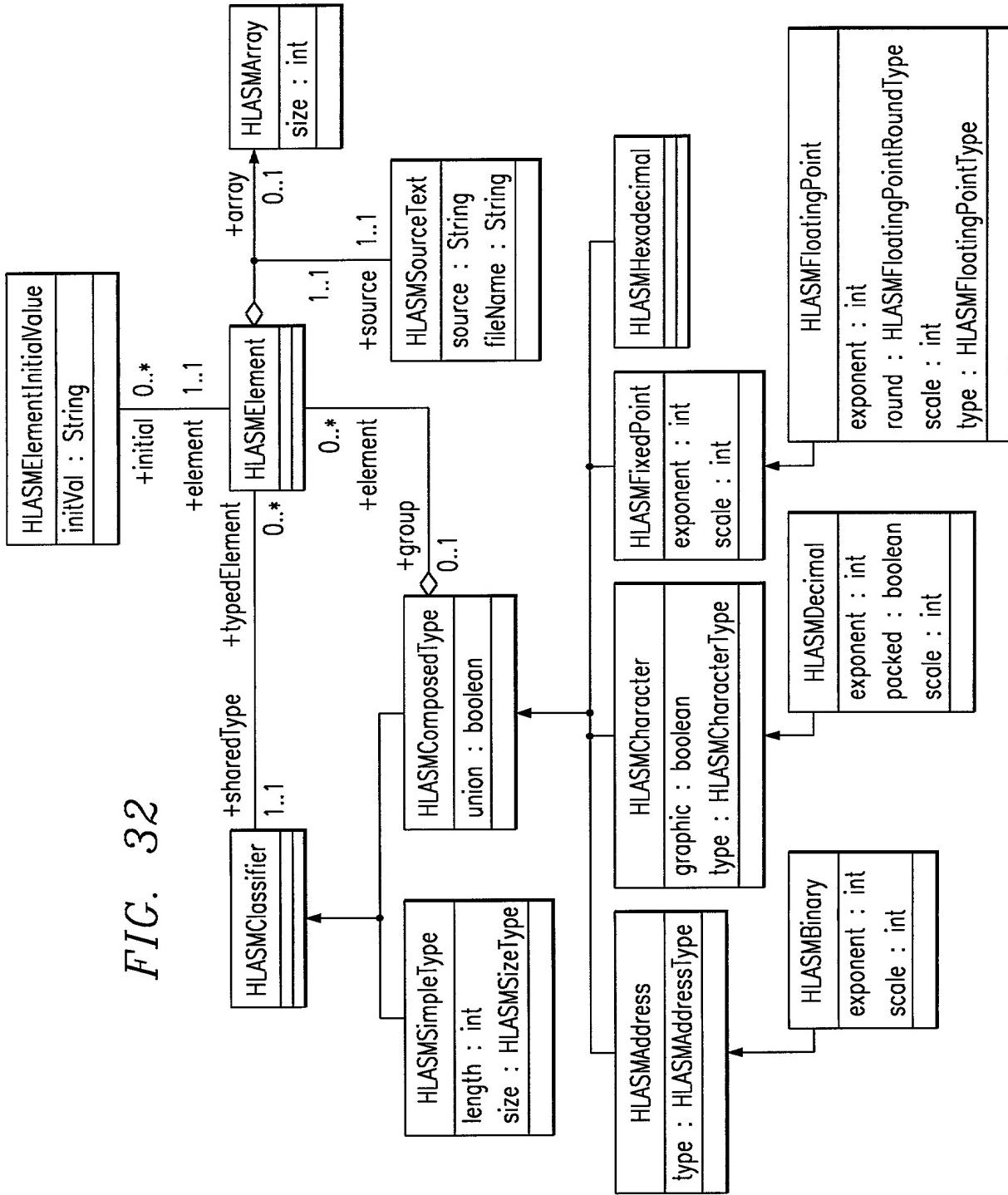
FIG. 30



NOTE: THESE PRIMITIVES DON'T TELL YOU THE FORMAT OF THE INFORMATION, JUST THE BYTE-LENGTHS. WE MAY NEED TO MODIFY THIS IF WE WANT TO SPECIFY THAT THE DATA IS, FOR EXAMPLE, TWO BYTES OF ASCII VERSUS TWO BYTES OF UNICODE, OR THAT THE BYTES ARE BIG-ENDIAN ORDERED VERSUS LITTLE-ENDIAN.

FIG. 31

FIG. 32



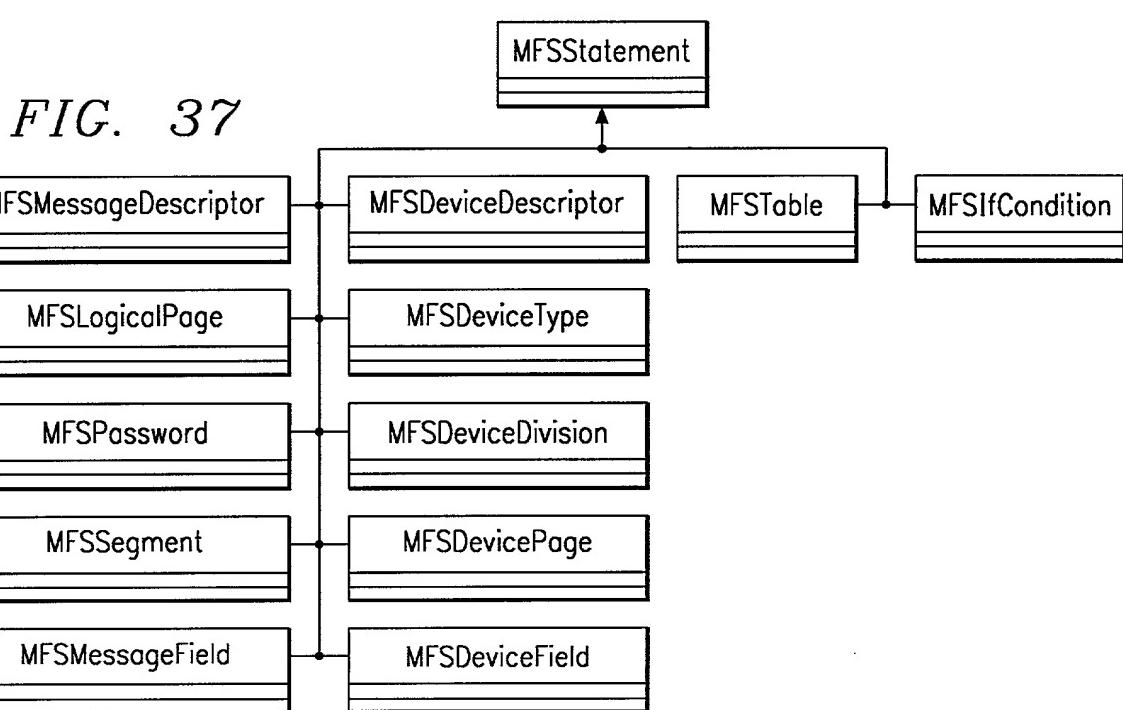
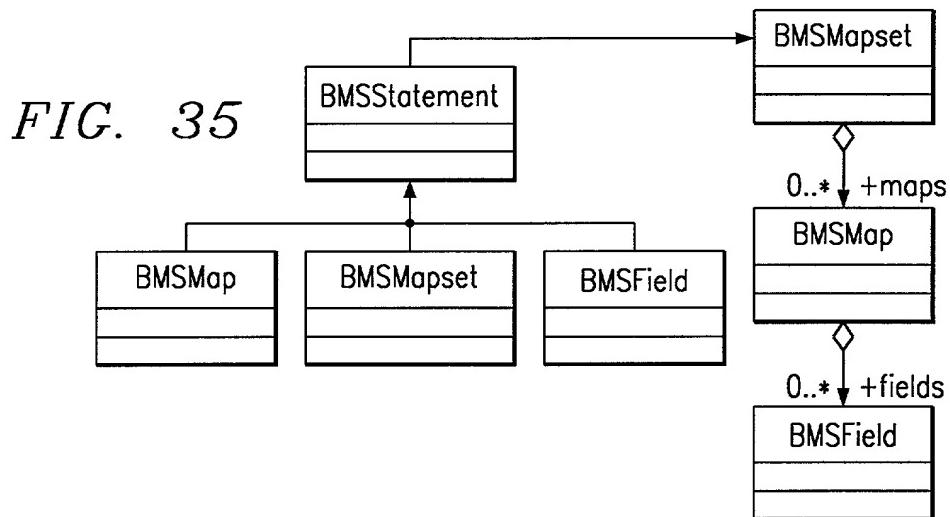
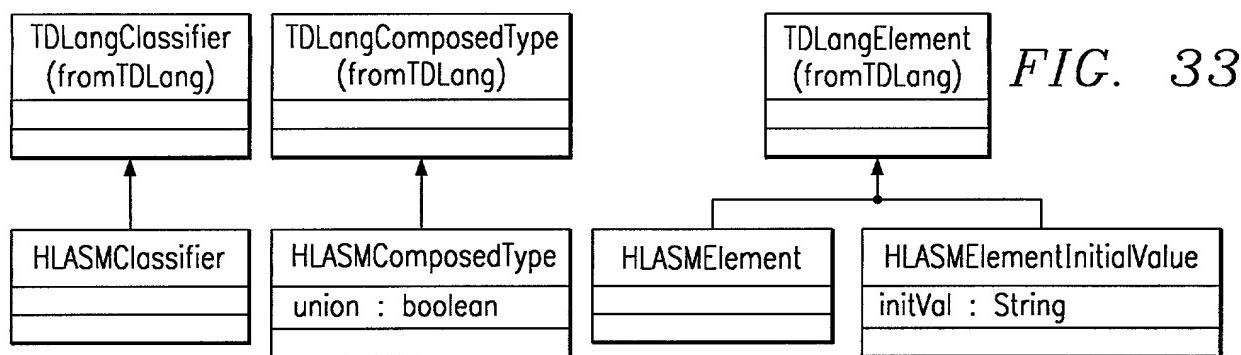


FIG. 34

<<enumeration>> HLASMAddressType	
addressValue	
baseRegisterAndDisplacementValue	
cumulativeExternalDummy	
externalDummySectionOffset	
externalSymbolAddress	
lengthOfClassOrCumulativeExternalDummy	
psectAddress	

<<enumeration>> HLASMCharacterType	
ASCII	
DBCS	
EBCDIC	
mixedDBCS	
unicode	

<<enumeration>> HLASMFloatingPointRoundType	
addOneInFirstLostBitPosition	
roundDown	
roundUp	
roundToZero	
unbiasedNearest	

<<enumeration>> HLASMFloatingPointType	
binary	
hexadecimal	

<<enumeration>> HLASMSizeType	
bit	
byte	
halfword	
fullword	
doubleword	
quad	
twodoublewords	

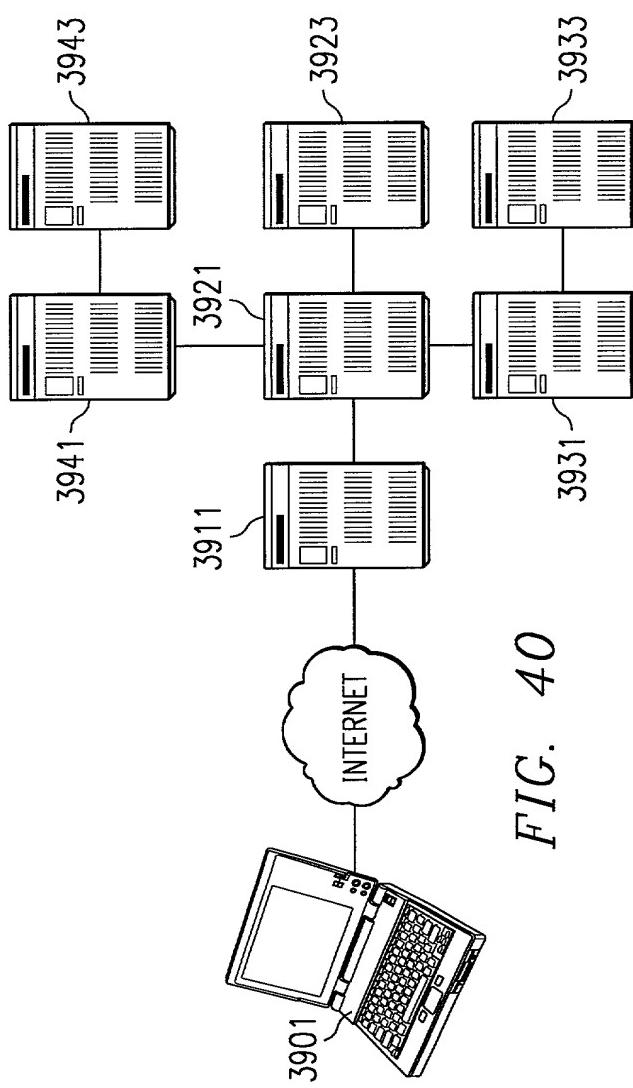


FIG. 40

BMSMapset	BMSMap	BMSField
<pre>base : String color : BMSColorType control : BMSControlType cursorLocation : boolean data : BMSDadataType descriptionAttributes : BMSMapAttributesType extendedAttributes : BMSExtendedAttributesType fieldSeparator : String fold BMSSFoldType highlighting : BMSHighlightingType horizontalTabs : int language : BMSLanguageType logicalDeviceCode : int mapAttributes : BMSMapAttributesType mode : BMSSModeType outboardFormatting : boolean outlining : BMSOutliningType partition : String programmedSymbol : String shiftOutShiftIn : boolean storage : boolean suffix : String terminal : String tioaPrefix : boolean transparent : boolean trigraph : boolean type : BMSMapsetType validation : BMSValidationType verticalTabs : int</pre>	<pre>column : String color : BMSColorType control : BMSControlType cursorLocation : boolean data : BMSDadataType descriptionAttributes : BMSMapAttributesType extendedAttributes : BMSExtendedAttributesType fields : boolean fieldSeparator : String header : boolean highlighting : BMSHighlightingType justify : BMSSJustifyType line : String mapAttributes : BMSMapAttributesType outboardFormatting : boolean outlining : BMSOutliningType partition : String programmedSymbol : String shiftOutShiftIn : boolean size : BMSSizeType terminal : String tioaPrefix : boolean transparent : boolean validation : BMSValidationType</pre>	<pre>attributes : BMSAttributesType case : boolean color : BMSColorType group : String highlighting : BMSHighlightingType initialValue : String justify : BMSSJustifyType length : int occurs : int outlining : BMSOutliningType pictureInput : String pictureOutput : String position : BMSPositionType programmedSymbol : String shiftOutShiftIn : String transparent : boolean validation : BMSValidationType</pre>

FIG. 36A

<b>BMSAttributesType</b>	skip : boolean bright : boolean detectable : boolean dark : boolean modified : boolean cursor : boolean normal : boolean numeric : boolean protected : boolean	<b>BMSColorType</b>	print length freekb alarm freset  <b>BMSControlType</b> default blue red green pink turquoise yellow neutral	<b>BMSExtendedAttributesType</b>	no yes mapony	<b>BMSStatement</b>	label : String comments : String
<b>BMSMapAttributesType</b>	color : boolean highlighting : boolean outline : boolean programmedSymbol : boolean sosi : boolean transparent : boolean validation : boolean	<b>BMSMapsetType</b>	dsect map final	<b>BMSOutlineType</b>	out in inout	<b>BMSPositionType</b>	line : int column : int number : int
<b>BMSMapAttributesType</b>	color : boolean highlighting : boolean outline : boolean programmedSymbol : boolean sosi : boolean transparent : boolean validation : boolean	<b>BMSMapsetType</b>	dsect map final	<b>BMSPositionType</b>	line : int column : int number : int	<b>BMSValidationType</b>	mustFill mustEnter trigger userExit
<b>BMSJustifyType</b>	left : boolean right : boolean first : boolean last : boolean bottom : boolean	<b>BMSHighlightingType</b>	off blink reverse underline	<b>BMSValidationType</b>	mustFill mustEnter trigger userExit	<b>BMSFoldType</b>	lower upper
<b>BMSStatement</b>	label : String comments : String	<b>BMSValidationType</b>	mustFill mustEnter trigger userExit	<b>BMSFoldType</b>	lower upper	<b>BMSValidationType</b>	mustFill mustEnter trigger userExit

FIG. 36B

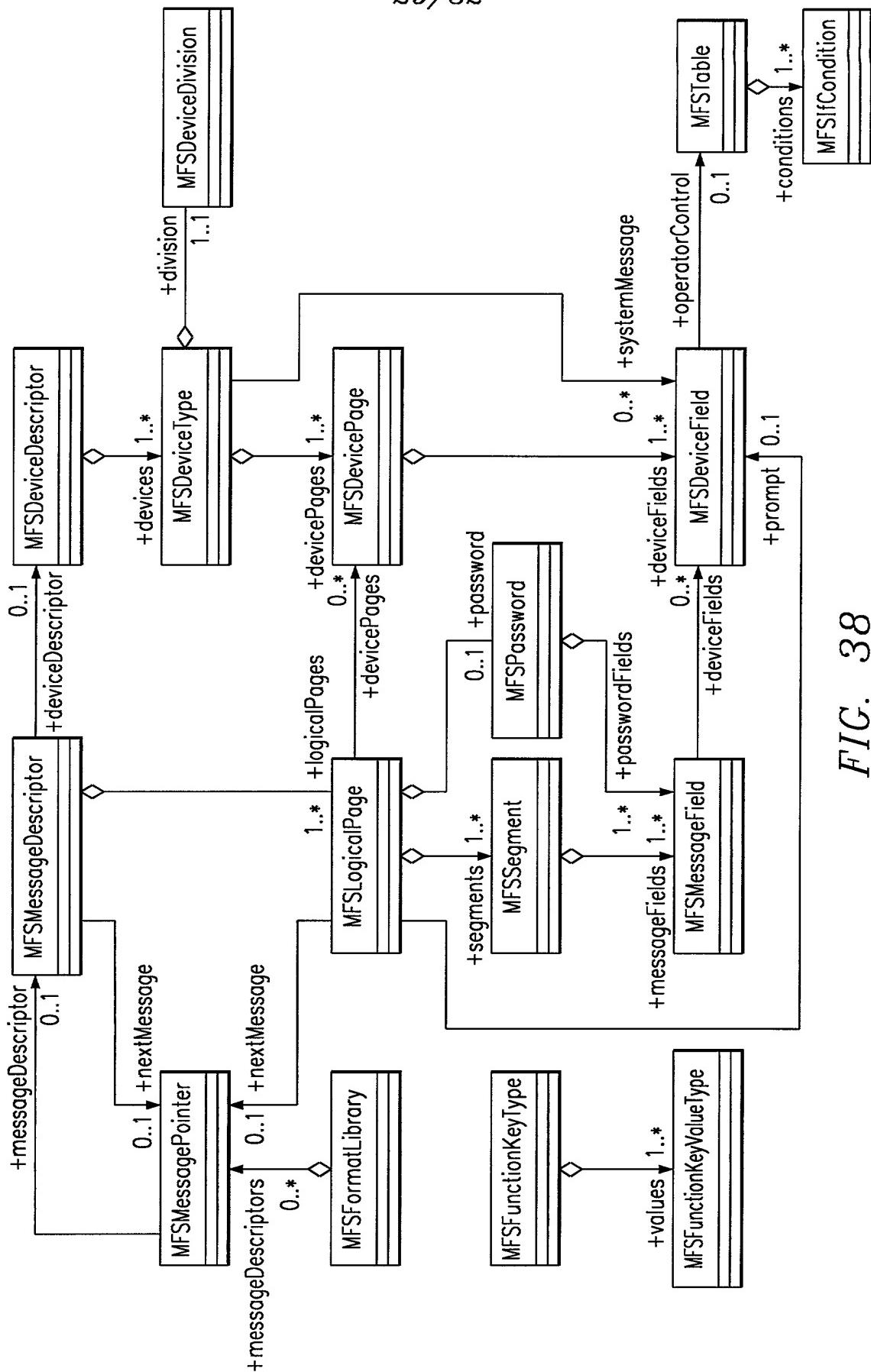


FIG. 38

<b>MFSStatement</b>	<b>MFSDeviceType</b>	<b>MFSDeviceDivision</b>	<b>MFSDeviceField</b>	<b>MFSFormatLibrary</b>	<b>MFSMessageField</b>	<b>MFSExtendedAttributeType</b>
label : String comments : String	card : String dscs : String features : MFSFeatureType page : MFSPageType pen : String pk : MFSFunctionKeyType substitution : String type : String width : int	type : MFSDescriptorType compression : MFSCompressionType	attributes : MFSAttributeType extendedAttributes : MFSExtendedAttributeType length : int pen : String position : MFSPositionType value : String	name : String	attributes : boolean exit : MFSExitType extendedAttributes : int fill : String justify : MFSJustifyType length : MFSLengthType value : String	name : String
<b>MFSIfCondition</b>	<b>MFSDevicePage</b>	<b>MFSDevicePage</b>	<b>MFSMessage</b>	<b>MFSegment</b>	<b>MFSMessage</b>	<b>MFSMessage</b>
condition : MFSConditionType action : String	cursor : MFSCursorType fill : String multiplePages : boolean	cursor : MFSCursorType fill : String multiplePages : boolean	attributes : boolean exit : MFSExitType extendedAttributes : int fill : String justify : MFSJustifyType length : MFSLengthType value : String	exit : MFSExitType graphic : boolean	exit : MFSExitType graphic : boolean	color : MFSColorType extendedGraphicCharacterSet : String highlighting : MFSHighlightingType mixed : boolean
<b>MFSMessageDescriptor</b>	<b>MFSLogicalPage</b>	<b>MFSLogicalPage</b>	<b>MFSMessage</b>	<b>MFSegment</b>	<b>MFSMessage</b>	<b>MFSMessage</b>
fill : String ignoreSource : boolean option : int paging : boolean type : MFSDescriptorType	condition : MFSConditionType promptValue : String	fill : String ignoreSource : boolean option : int paging : boolean type : MFSDescriptorType	number : int vector : int	exit : MFSExitType graphic : boolean	exit : MFSExitType graphic : boolean	outlining : MFSOutliningType programmedSymbol : String validation : MFSValidationType
<b>MFSConditionType</b>	<b>MFSCursorType</b>	<b>MFSCursorType</b>	<b>MFSMessage</b>	<b>MFSMessage</b>	<b>MFSMessage</b>	<b>MFSMessage</b>
leftOperand : String rightOperand : String operator : MFSOperatorType	row : int column : int fieldName : String	row : int column : int fieldName : String	number : int vector : int	number : int vector : int	number : int vector : int	number : int vector : int
<b>MFSAttributeType</b>	<b>MFSConditionType</b>	<b>MFSConditionType</b>	<b>MFSMessage</b>	<b>MFSMessage</b>	<b>MFSMessage</b>	<b>MFSMessage</b>
attributeBytes : boolean detectable : MFSDetectabilityType intensity : MFSIntensityType modified : boolean numeric : boolean protected : boolean strip : boolean	leftOperand : String rightOperand : String operator : MFSOperatorType	leftOperand : String rightOperand : String operator : MFSOperatorType	number : int vector : int	number : int vector : int	number : int vector : int	number : int vector : int

FIG. 39A

MFSFeatureType	card : boolean dataEntryKeyboard : boolean functionKeys : boolean group : int ignore : boolean pen : boolean	MFSOutliningType	box : boolean right : boolean left : boolean under : boolean over : boolean value : String
MFSFunctionKeyType	fieldName : String	MFSLengthType	length : int firstByte : int
MFSFunctionKeyValueType	index : int function : String	MFSPageType	number : int formatting : MFSPageFormattingType
MFSFunctionKeyValueType		MFSHighlightingType	<<enumeration>> default blink reversevideo underline
MFSFunctionKeyValueType		MFSDescriptorType	<<enumeration>> input output inout
MFSCompressionType	fixed short all	MFSDetectabilityType	<<enumeration>> deferred immediate nondetectable
MFSColorType	blue red green pink turquoise yellow default neutral	MFSOperatorType	<<enumeration>> equal notEqual greaterThan greaterThanOrEqual lessThan lessThanOrEqual
MFSValidationType		MFSPageFormattingType	<<enumeration>> default fill field both
MFSJustifyType	left right	MFSPositionType	row : int column : int physicalPage : int
		MFSIntensityType	normal high nondisplayable

FIG. 39B

